The RUBBER AGE

Published TWICE-A-MONTH at New York

Vol. 20 DECEMBER 25, 1926 No. 6

R. T. VANDERBILT CO.

INCORPORATED

50 East 42nd Street, New York

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The RUBBER AGE

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Vol. 20 DECEMBER 25, 1926 No. 6

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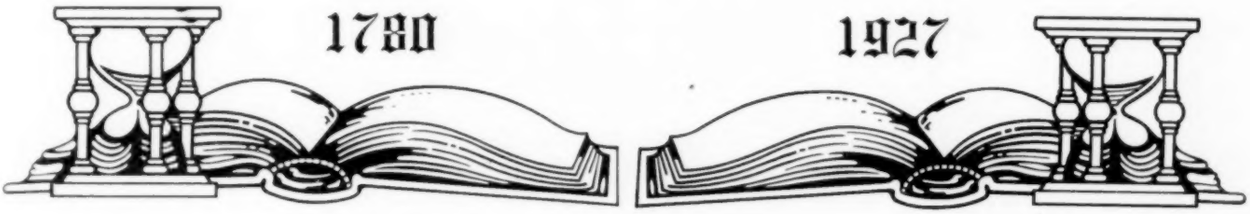
With the Editor

Among the features in the present issue is an article on executive control in rubber manufacturing companies. It has been prepared by a consulting engineer who is well known to many executives in the industry. In his article the author calls attention to the fact that fifty per cent of the corporations in this country are making no money, that seventy per cent are operating with practically no profit, and that not over five per cent of the corporations know what it actually costs them to produce goods. The lack of exact knowledge as to production of goods and the efficiency of various departments is of course largely responsible for the lack of profits. Accordingly, the author has framed his article with the thought of providing a system for rubber companies who are perhaps losing money through the failure to provide their executives with the proper current information showing the condition of different departments and the cost of manufacturing various items. A number of important forms for the recording and transmission of company information are suggested. To companies who have not yet perfected a system of giving executives the information required as a foundation for sound and profitable decisions, this system may well prove useful.



PROGRESS

IN 1780, the first Huber pigments—hand-made colors—were put into use. In 1927 we embark on a new year of service to the rubber industry, and it is our aim to uphold in fullest measure the high standards upon which we have built our reputation.

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During the past year we have acquired and developed a highly modern rubber clay plant, and we are now furnishing a real re-enforcing clay at the low cost of ordinary fillers.

In 1927 we plan to enlarge our scope by offering a full line of fine rubber colors made in our own factories, and designed to meet rubber compounding conditions.

Huber quality, Huber service, and Huber fair-dealing will continue as our guiding policy.

J. M. HUBER, INC.

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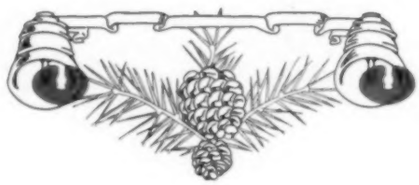

An Appreciation

IN this last message of 1926 we like to lay aside our usual plea in this space and instead express our deep appreciation to the rubber industry for the reception accorded Para-Flux during the past year.

It is pleasing to know that this material, developed exclusively by us, has met with such increasing favor in the comparatively short period since its introduction.

In a real human sort of way we want therefore to express our deep gratitude to everyone in the rubber industry with our sincerest wishes for a most pleasant Christmas and a Happy and Successful New Year.

THE C. P. HALL CO.

AKRON, OHIO

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THE
RUBBER AGE
The Only Twice-a-Month Rubber Publication

Vol. 20 NEW YORK, DECEMBER 25, 1926 No. 6

FIRESTONE EARNINGS FALL AS SALES GROW

After Deducting Reserve of $1,500.000 for Contigencies and Allowing for Preferred Dividends, Net Profit of $6,122,339 is Equal to $12.94 a Share on Common.

The Firestone Tire & Rubber Co., Akron, and its subsidiaries reported a profit for the fiscal year ended Oct. 31, 1926, of $7,622,339, after depreciation, interest and Federal taxes. After a reserve of $1,500,000 had been set aside for contingencies and allowance had been made for preferred dividends, a net profit of $6,122,339 was reported, comparing with a profit of $12,800,412 in the previous year. On the 352,844 shares of common stock, this profit is equal to $12.94 a share, compared to a profit equal to over $32 a share reported last year.

Despite the lower profits, sales of the parent and subsidiary companies increased 15 per cent over the 1926 fiscal year, being reported as $144,397,000, against $125,598,000 last year. The fall in net earnings was said by Harvey S. Firestone, president of the company, to be due to heavy depreciation of crude rubber inventories in the first half of the year.

In a statement issued to stockholders in connection with the annual report, Mr. Firestone stated: "It was claimed by the framers of the British Restriction Act of November, 1922, that one of the great benefits to be derived from the act would be to stabilize the price of rubber at a fair level for both producer and consumer. The act called for restriction of exports when the price fell below 12 pence, and releases for exportation when the price went above 15 pence. Restriction and releases were adjusted only quarterly and the entire plan was not sufficiently elastic to stabilize prices.

"The restriction policy has since been changed to much higher levels. Announcement was made on April 26, 1926, that if in any quarter, beginning May 1, the London price failed to average 21 pence for any quarter a further restriction of 10 per cent would go into effect and there would be no additional releases until the average price was 21 pence for three consecutive quarters, or 24 pence for one quarter. You will see, therefore, that we are again likely to have wide fluctuations and higher price levels."

The company on Dec. 15 declared an extra dividend of $1 on the common stock, in addition to the regular quarterly dividends of $1.50 on the common, $1.50 on the 6 per cent preferred and $1.75 on the 7 per cent preferred. The extra dividend is payable Jan. 3 to stockholders of record Dec. 20. The regular dividend on the common is payable Jan. 20 to stockholders of record Jan. 10, that on the 6 per cent preferred Jan. 15 to stockholders of record Jan. 1, and that on the 7 per cent preferred is payable Feb. 15 to stockholders of record Feb. 1.

NEW RUBBER AGE OFFICES

While this issue of THE RUBBER AGE is on the press, the New York offices of the publication are being moved to the Fisk Building, corner Broadway and Fifty-seventh Street. The new street number is 250 West 57th St. and, effective at once, correspondents are asked to use that address. The new offices are in Rooms 412 and 413. The new telephone numbers are Columbus 6430, 6431 and 6432.

It will be appreciated if everyone communicating with the publication will note the new address so that the usual prompt service may be given.

R.A.A. Banquet

The annual banquet of the Rubber Association of America will be held January 10 at the Hotel Commodore. Up until December 20 the Association's banquet committee were unable to make a final announcement concerning the speakers who will address the guests.

FOURTH GOODYEAR SUIT INVOLVES SEIBERLING

F. A. Seiberling and Other Common Stock Voting Trustees Named as Defendants in Fourth Suit Filed by Stockholder Against Goodyear Tire & Rubber Co.

The fourth suit involving the Goodyear Tire & Rubber Co. was started in the United States District Court at Toledo Dec. 10 with the filing of a bill of complaint by K. G. Benedict, a New York woman stockholder, in which F. A. Seiberling and other common stock voting trustees were named as defendants.

The suit is aimed to break the control of the common stock alleged to be vested in the hands of F. A. Seiberling, Russell L. Robinson and Henry S. Manton, claimed to be voting trustees of the majority of common stockholders. The complaint named the following defendants: F. A. Seiberling, former president of the Goodyear Tire & Rubber Co. and now president of the Seiberling Rubber Company; Russell L. Robinson, E. E. Masek, Henry S. Manton, Francis Seiberling, A. H. Scoville, the Union Trust Co., Cleveland; Goodyear Tire & Rubber Co., Akron; Arthur A. Fowler, W. A. Phillips, E. G. Wilmer, C. R. Erwin, Robert Schaffser, George P. Miller, George M. Jones and James W. McMahon.

It is alleged that F. A. Seiberling induced common stockholders to join a voting trust, but did not put in the major portion of his own holdings; that he dominates the majority through relatives; that he has set up competing companies in the rubber industry and has maintained a minority of the board of directors of the Goodyear Company to learn the inside workings of the company. It is charged that all his relations to Goodyear have been for his personal benefit, to the detriment of the common and other shareholders.

The bill asked that Mr. Seiberling and his two relatives be restrained from further acting as voting trustees and requested an order requiring the Union Trust Co. to ascertain the views of the

owners of common stock as to the proposed plan of recapitalization and to vote the stock accordingly. Under the trust agreement, the bank is depository and holds the actual certificates of stock.

It is understood that the injunction suit is backed by controlling interests in the company, because Mr. Seiberling and his associates are behind other pending legal actions contesting the 1923 refinancing settlement.

Every effort to prevent delay in deciding this suit will be made by Mr. Seiberling and other defendants, he intimated. The defendants have been served with notices of an injunction, and it is expected that the case will be heard in the near future.

On Dec. 15 Judge Scott D. Kenfield sitting in Common Pleas Court in Akron handed down a decision in the suit brought against the Goodyear company by Frank C. Tomlinson, a stockholder. The Court ruled that the Laura L. T. Weiss suit in 1923 had not been settled in court, and that a journal entry made by the late Judge William J. Ahern, Jr. stating that the suits were adjudicated was a "clerical error". Judge Kenfield ruled that the suits merely were held in abeyance and can be taken up in court again.

The ruling will be used by stockholders interested in the common stock voting trust in pressing other actions now pending in Akron and in the Ohio Supreme Court in Columbus. The decision was regarded in Akron as a victory for F. A. Seiberling and his associates, who are sponsoring actions to set aside the Goodyear 1921 refinancing plan.

Judsen Plant Destroyed

The factory of the Carl A. Judsen Mfg. Co., 4109 W. Kinzie St., Chicago, Ill., was recently gutted by a fire which is reported to have almost totally destroyed the wooden structure. Loss is estimated at $25,000. The fire is believed to have been caused by a defective flue as it broke out soon after the heating plant was started. The Judsen company manufactures molded rubber goods, horseshoe pads, matting and specialties.

TRADERS ENJOY ANNUAL BANQUET AT BILTMORE

More Than 200 Members and Guests of Rubber Trade Association of New York Are Entertained by Light Program Arranged by C. A. Morse's Committee.

The Rubber Trade Association of New York, already possessed of a reputation for its enjoyable annual dinners, rather outdid itself this year in the opinion of many who attended the 1926 banquet which was held in the Music Room of the Hotel Biltmore on the evening of December 8. There were between 200 and 300 crude rubber traders and their friends present for the occasion.

Having abandoned the worries of the crude rubber market completely, the brokers and dealers had no idea of letting the cares of the government intrude on their evening and hence no senators or other gentlemen from Washington had a place on the program as has happened frequently in past years. Instead, the time following the excellent meal was entirely given over to entertainers who had been carefully chosen by the Association's banquet committee. Everyone appeared to approve the adoption of the lighter program.

Fred Pusinelli, newly-elected president of the Association, presided. With him at the head table were Dr. John L. Davis, the chief speaker who scarcely appeared the minister whom he proclaimed himself to be, A. L. Viles of the Rubber Association of America, D. D. Haldene, Chas. T. Wilson, W. E. Bruyn, F. S. Henderson, S. J. Goldsmith, N. M. Behr, W. M. Morse of *The India Rubber World*, E. S. Babcox of *The India Rubber & Tire Review* and P. L. Palmerton of THE RUBBER AGE.

With the service of the coffee and the lighting of the cigars, the Caesar band and the impromptu singers who had been helping out gave way to the professional talent. The Keller Sisters and Lynch of the Casa Lopez were first on the list with a number of pleasing songs. They were followed by Belle Baker of the Ziegfeld aggregation who demonstrated that she could sing also.

Dr. Davis' subject was "Reminiscences of Life" and it developed quite early that a good part of the speaker's life had been spent hearing good stories and that he had a good memory as well as an ability for retelling what he had heard. He showed a surprising knowledge of the rubber business also. The only serious note in his talk concerned the value of organization among individuals or companies engaged in similar activity. Even in dealing with that topic he was unable to supress his ready wit and assured his hearers with every semblance of seriousness that three men could rob a tram load of passengers only because they were organized and could depend upon each other. The Rubber Trade Association, he suggested, had not three but perhaps three hundred members and he felt that the moral was obvious.

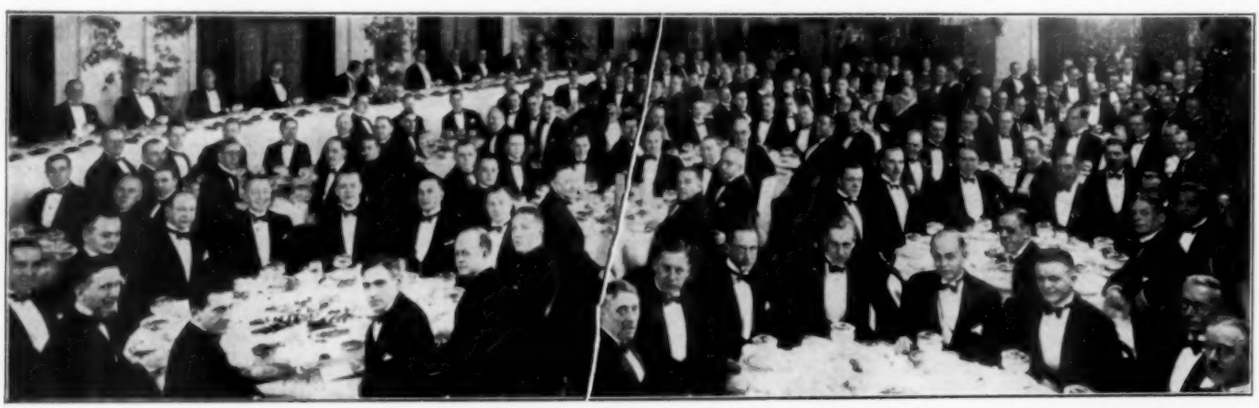
Jokes About Rubber Pool

The newly formed rubber pool, in Dr. Davis' opinion, would make one long holiday for the rubber traders since the price was to be so stabilized that all would be necessary would be an occasional telephone inquiry to the General Rubber Company. The guests, however, were more surprised at the care with which Dr. Davis had been reading the newspapers than they were discouraged by his prediction.

The dinner committee of the Association responsible for the pleasant evening consisted of C. A. Morse, H. S. DeLanie and J. S. Rodenbough.

RUBBER COMPANIES BUY MANY BALES OF COTTON

Harvey S. Firestone, president of the Firestone Tire & Rubber Co., Akron, recently announced that his company had purchased large lots of cotton for use in 1927, 1928 and 1929, but since this announcement was made it has been learned from reliable sources that large contracts for cotton had also been placed by the Goodyear Tire & Rubber Co., the B. F. Goodrich Co., and the Miller Rubber Company. It is not believed, of course, that all of these Akron companies have placed commitments as far ahead as the Firestone company, but, nevertheless, it is said their purchases have been heavy.



The Annual Banquet of the Rubber Trade Association of New York at the Hotel Biltmore, Dec. 8.

Early Snowstorms Have Greatly Helped Rubber Footwear Sales

Seasonable Weather Has Resulted in Many Cases in Larger Shipments from Footwear Factories During the Second Week of December than in the Entire Month of November.

December already has had more snow than any other December since 1906, say the press dispatches from Boston, which also apply to the Atlantic seaboard from Eastport, Maine, as far south as Washington, D. C. While to the average citizen this condition means only personal discomfort, it has brought a smile to the face of the tiger in the person of the rubber footwear manufacturer. For there is a by-phrase in the rubber shoe industry that is as old as the business itself, namely, that one heavy snowstorm before Christmas means more than six thereafter.

The logic of this is sound when the merchandising conditions of the industry are analyzed. The shoe retailer places his advance order for winter goods with the manufacturer or jobber in the early months of the year. This order covers his minimum requirements and calls for shipment in the fall months so that the goods will be on his shelves by December 1st. The manufacturer schedules his production on the basis of these orders and makes a normal stock in anticipation of a "repeat" or "sizing" demand. If the winter weather comes early, the retailer immediately starts to move his goods and calls upon the manufacturer for replenishment. Early weather also insures that a certain portion of the shoes sold will be worn out in January or February and further sales can be expected. When the snow and slush does not make its appearance until January or February, the greater part of this replacement business is lost, and in many cases the minimum stock order suffices for the entire season. In a late season, the "sizing" demand is confined to pair lots whereas in an early season, repeat "case" (24 pairs) units are the rule.

Shipments of Record Proportions

Some idea of the effect of an early storm can be gained from the statement of one of the largest eastern footwear manufacturers that his company shipped more rubber footwear in the week of December 6-11 than during the entire month of November. Scenes of feverish activity in the shipping and selling departments of rubber footwear companies have been re-enacted for the first time since 1920 when shoe retailers with their motor cars were found at the factory doors at opening time ready to take away all the cases of footwear they could carry. Such a situation arises from the fact that the buying of rubbers or overshoes is something that the average consumer puts off until the actual need arises.

The United States Census bureau publishes figures for the rubber footwear industry every two years, showing dollar volume of sales and also distribution by classes of merchandise. The figures for the last three periods are as follows:

Year	Total Sales	Prs. Boots	Prs. Shoes and Overshoes	Prs. Tennis Shoes
1921	$94,033,524	6,532,212	57,191,040	15,236,590
1923	131,739,742	10,097,896	60,102,775	26,114,073
1925	115,934,554	4,739,423	52,338,782	24,999,932

Some explanation is necessary in order to interpret these figures correctly. The year 1921, although visited by heavy snow early in the year and a light fall in December, was a depression year in industry in general and for that reason is no criterion. The year 1923 had more than the average amount of snow and bad weather, in fact it was the last period of good business in footwear until the present year. The year 1925 was generally an off-year due primarily to the weather and secondarily to introduction of cheaper lines, price cutting, and increased competition. For instance, in December, 1925, only a half an inch of snow fell in Boston whereas in the first 11 days of December, 1926, 14.8 inches have already fallen.

The figures on pairs of overshoes and shoes also require comment. The tremendous increase in popularity of the rubber overshoe in the various types was explained in a recent article in THE RUBBER AGE. In the womens class this has meant a transition from light rubbers to overshoes which sell for three to four times the price. Also overshoes outwear rubbers. From this it can be seen that although the pair volume in this class does not show a heavy increase, there has been a definite broadening of the market.

Most companies whose main product is rubber footwear end their fiscal years on March 31st, which enables them to have a complete cycle of the business year in footwear. At such a date, the rush season has been completed, returns and adjustments from the winter operations are all entered, making it the ideal time to have inventories at a low point. Of the "Big Five" three are rubber footwear manufacturers, namely, the United States Rubber Company, the B. F. Goodrich Company, and the Firestone Tire and Rubber Company through its subsidiary, the Firestone Footwear Company of Hudson, Mass. The business year of the United States Rubber Company ends December 31st. Prior to this storm of December 5, sales of 1926 were estimated by the company at a minimum of $210,000,000. There is no doubt that this spurt in footwear will make the figure close to $225,000,000.

The B. F. Goodrich Company also ends its year on December 31st and last estimates placed the 1926 sales at $140,000,000. Goodrich has leaped to the front as a footwear manufacturer since the "Zipper" overshoe was placed on the market in 1923-24. The company has warehouses in Boston and New York City with ample stocks of footwear which enabled the present rush demand to be taken care of promptly. It would not be surprising, therefore, to see Goodrich sales touch $150,000,000 as a result of increased footwear shipments this month. This opens up the possibility of the Goodrich volume for 1926 exceeding that of 1920, when the company enjoyed its best year with $150,007,346 sales.

The fiscal year of the Firestone Tire and Rubber Company has just ended on October 31st and the official sales figures are not yet released although preliminary estimates place them at $135,000,000. Thus the increased volume of the footwear plant at Hudson, Mass., will not be reflected in the company's business for the year just closed. An addition which will double the size of the footwear fac-

General Offices and Plant of the Cambridge Rubber Company

tory is under construction, and there is no doubt that the present boom in footwear will place the Firestone line more of a factor than ever in the rubber shoe trade.

Hood Rubber Company, which was originally a footwear concern solely, ends its year on March 31st next in common with the rest of the footwear companies. Sales for the first six months ending September 30th, were, according to the company statement, in excess of sales for any corresponding period in the company's history. It is well known that the spurt in Hood sales from $28,000,000 in 1924 to $38,000,000 in 1926 was due primarily to expansion of the tire and sundry departments, since footwear was in a slump as the government figures show. But for this year with tires holding their own, and footwear gaining ground tremendously for the next three months, Hood's sales may easily go to a new high mark.

Western Plants Busy

Of the western rubber footwear companies, Mishawaka Rubber and Woolen Mfg. Company, Mishawaka, Indiana, La Crosse Rubber Company, La Crosse, Wisconsin, and the Servus Rubber Company, Rock Island, Ill., Mishawaka has the best representation in the East with warehouses strategically located and large distribution. This company in normal times does $3,000,000 a year in New England alone. Servus and La Crosse are not so well known in the East, but Chicago and the Middle West have had an early spell of cold weather and snow also, which will benefit the companies in that section as well as the eastern companies who distribute from Chicago and Minneapolis.

Converse Rubber Shoe Company, Malden, reports that sales for the fiscal year ending March 31st will exceed $6,000,000 compared with $4,800,000 a year ago, showing a 25 per cent increase. Cambridge Rubber Company is enjoying large distribution through its specialties and novelties such as the "Raynboot", a new style overshoe. The smaller group such as Goodyear Rubber Co., Middletown, Conn., and Lambertville Rubber Co., Lambertville, N. J., Tyer Rubber Company, Andover, Mass., and the Bourn Rubber and Manufacturing Company of Providence, R. I., will all participate in the general good business, and benefit with the others from the retailer's return to prosperity. This in itself is no small factor, as it will enable the shoe dealer to pay his bills promptly, something he has not been able to do in most cases for several years.

While the production schedules of rubber footwear factories will not be increased materially as most of them are running good tickets now, the early snow will insure their continuance until the spot winter demand is satisfied, probably by February 15. At that time tennis production for the summer season will start, and advance sales on this product indicate that the year of 1927 in rubber footwear will eclipse previous records.

MAKE FOURTH CUT IN BRITISH TIRE PRICES

A cut of 10 per cent in tire prices has been announced by a number of British rubber companies, following a reduction of 20 per cent made early in October by Michelin and a number of American concerns selling in England. British manufacturers said that foreign companies (probably meaning especially American companies) are making a big effort to capture the tire market in England. Although figures show that the total tire imports are steadily increasing, the British companies declared that a 20 per cent reduction would be uneconomical. This reduction is the fourth made in England within a year.

MARINE CORPS SEEKS BIDS ON RUBBER COATS

The Depot Quartermaster of the U.S. Marine Corps at Philadelphia will receive bids until Dec. 28 at 11 a.m. for a supply of 4,200 rubber coats, assorted as follows: 1,800 small, 2,100 medium and 300 large, all in accordance with Marine Corps specifications adopted April 14, 1923. The coats are for Philadelphia delivery. Standard sample coats may be seen upon application to the Depot Quartermaster, 1100 South Broad St., Philadelphia, or to the Quartermaster, Navy Building, Washington, D. C.

Joins Lima Sole and Heel

The Lima Cord Sole and Heel Company of Lima, Ohio, has announced the appointment of Bernard A. Young, formerly with the Panco Rubber Company, as Eastern selling representative. Mr. Young will handle the Gro-Cord line of soles and heels, which are sold particularly to the manufacturing trade.

The Lima Company is enjoying good business at the present time and recently built an addition to their plant. Officers are President, J. E. Grosjean; Vice-Presidents, F. L. Maire, and A. D. Neuman; Secretary, W. G. Montgomery; and Treasurer, F. W. Cook.

U. S. Rubber Leases Branch

The United States Rubber Company has leased the first five stories of a nine-story building at Ninth and Douglas Sts., Omaha, Neb. The lease will run ten years. At the present time the Omaha branch of the company occupies a building on the northeast corner of the same streets, opposite the new quarters. John F. Barnes is manager of the Omaha branch.

Chamberlain to Sail

K. S. Chamberlain, president of the Fisk Tire Export Company of New York, will sail January 1 for South America on a trip which will take him around the world in the interest of export sales of Fisk tires.

FEWER RIMS TESTED DURING LAST MONTH

Tire & Rim Association's Report for November Shows 1,210,472 Rims Tested in Month, Against 1,828,539 in October—Of Total, 77 Per cent were Balloon Rims.

Rims tested and approved in November by the Tire & Rim Association of America totaled 1,210,472, a slight decrease from the figure of 1,828,539 reported for October and a large decrease from the total of 2,197,824 for November, 1925. Of this number, 77 per cent were balloon tire rims and slightly over four per cent high pressure rims, against 66 per cent balloon rims and four-and-a-half per cent high pressure rims in the same month last year. Whereas the number of clincher rims tested and approved in November, 1925, totaled over 23 per cent of the total, only slightly more than 10 per cent of the rims tested this November were of that type. Detailed figures follow:

RIMS INSPECTED AND APPROVED

Rim Size	Nov. 1926 No.	%	11 Mos. 1926 No.	%	11 Mos. 1925 No.	%
Motorcycle						
24x3	3,013	0.2	22,846	0.1	14,380	0.1
26x3	4,250	0.3	80,169	0.4	87,367	0.4
28x3	977	0.1	4,990	0.0	4,057	0.0
Clincher						
26x3	—	—	2,302	0.0	212,043	0.9
30x3½	112,990	9.3	2,509,258	10.9	4,682,841	19.2
31x4	2,337	0.2	57,292	0.2	613,583	2.5
Balloon						
25x3½	—	—	722	0.0	460	0.0
26x3½	2,582	0.2	198,499	0.9	—	—
27x3½	217	0.0	4,258	0.0	2,783	0.0
28x3½	518,370	42.9	9,681,581	41.9	8,018,392	32.9
29x3½	—	—	254	0.0	144,390	0.6
26x4	34,725	2.9	111,465	0.5	—	—
27x4	11,106	0.9	12,691	0.1	—	—
28x4	120,500	10.0	3,544,952	15.8	2,810,998	11.5
29x4	131,337	10.9	1,948,073	8.4	1,522,898	6.2
30x4	560	0.0	12,260	0.1	289,753	1.2
27x4½	2,761	0.2	14,413	0.1	—	—
28x4½	132	0.0	157	0.0	—	—
29x4½	24,237	2.0	345,141	1.1	487,560	2.0
30x4½	66,330	5.5	1,596,055	6.9	1,549,360	6.2
31x4½	849	0.1	33,222	0.1	247,481	1.0
30x5	7,266	0.6	240,120	1.0	370,781	1.5
31x5	9,097	0.8	393,010	1.7	441,248	1.8
33x6	6,688	0.5	139,915	0.6	90,646	0.4
High Pressure						
26x3½	11,009	0.9	182,898	0.8	587,074	2.4
32x3½	297	0.0	12,399	0.1	26,514	0.1
31x4	3,541	0.3	20,195	0.1	1,515	0.0
32x4	6,999	0.6	170,497	0.7	288,921	1.2
33x4	1,057	0.1	18,719	0.1	26,198	0.1
34x4	—	—	168	0.0	759	0.0
32x4½	22,709	1.9	403,999	1.8	594,421	2.4
33x4½	325	0.0	2,250	0.0	1,854	0.0
34x4½	4,486	0.4	30,845	0.1	91,490	0.4
36x4½	—	—	—	—	154	0.0
Truck						
36x5	73,819	6.1	898,642	3.9	798,951	3.3
32x6	15,075	1.2	196,286	0.9	149,387	0.6
34x7	1,715	0.1	54,444	0.2	22,612	0.1
36x8	83	0.0	11,752	0.1	10,707	0.0
40x10	—	—	485	0.0	802	0.0
Truck						
34x5	5,742	0.5	48,267	0.2	102,287	0.4
36x6	658	0.1	67,505	0.3	73,264	0.3
38x7	2,308	0.2	7,095	0.0	8,591	0.0
40x8	319	0.0	10,100	0.0	13,050	0.1
44x10	299	0.0	1,156	0.0	718	0.0
36x7	7	0.0	1,817	0.0	—	—
Totals	1,210,472		23,093,184		24,390,290	
Recapitulation						
Motorcycles		0.6		0.5		0.5
Clinchers		10.1		11.1		22.6
Balloons		77.0		79.1		65.3
High Press.		4.1		3.7		6.8
20" Trucks		7.4		5.1		4.9
24" Trucks		0.8		0.5		0.8

GREETINGS!

THE RUBBER AGE wishes all its friends in the rubber industry a Merry Christmas and a Happy and Prosperous New Year! May every hope be fulfilled and every venture be successful.

FIRESTONE LIBERIAN CONCESSION RATIFIED

Legislature of African Republic Finally Gives Approval to Agreement for Million Acre Development by Akron Company—Work Already Underway Will be Rushed

After a prolonged and sometimes discouraging delay, the Congress of Liberia has finally ratified the concession of up to one million acres of rubber land to the Firestone Tire and Rubber Company of Akron. According to H. S. Firestone, president of the company and inventor of the slogan that "Americans should produce their own rubber." This satisfactory completion of negotiations with the government of the African republic will mean an acceleration of the rubber planting plans which have already been well developed.

Pending the final approval of the agreement worked up between Firestone representatives and the executive department of the Liberian government, the American company has proceeded to clear the mature but abandoned Hevea plantation of some 1,200 acres near Monrovia which it also secures under the concession. This area has not only been tapped but has served as a source of seed for the 10,000 acres of new rubber which have been planted.

The present plan calls for the development of five plantations of 10,000 acres each as a first unit. The first of these having been completed and all uncertainty about the concession having been removed, work on the other units will go forward much more rapidly, it is announced. New groups of specialists in engineering, sanitation and agriculture are sailing for Monrovia. There are now more than 100 Americans working on the plantations.

On account of the lack of railroads or highways, the first units of the anticipated million-acre development are being located near the larger rivers. The construction of port and transportation facilities and sanitary improvements has already been begun and will now be rushed.

According to Mr. Firestone, the company's experience with Liberia labor has been entirely satisfactory and there now appears to be no barrier to a steady and rapid development of the vast acreage to which they hold formal rights.

RUBBER PRICE MOVES CREDITED TO COMBINE

Little news has developed during the past fortnight on the cooperative effort of American rubber and automobile manufacturers to stabilize crude rubber prices through the establishment of a reserve stock of rubber in New York. Various flurries in the crude rubber market were credited to purchasing by the "pool", but definite information as to the operations of its common purchasing agent has been closely guarded. A report from Boston was to the effect that the first payment on the $40,000,000 credit has been made, 75 per cent by rubber companies and 25 per cent by automobile makers. The financial houses handling the credit made no announcement, however.

SAIL FOR FIRESTONE PLANTATION

Among the employees of the Firestone organization who sailed from New York en route for Liberia on the *Carmania* Dec. 8 were the four men shown here. From left to right they are: John Tilton of Canton, agricultural expert; Harold Hoch, Akron, civil engineer; W. H. Douglas, Topeka, Kan., field engineer; Raphel Van Neste, Washington, D. C., field engineer. They have signed contracts covering eighteen months service on the Firestone plantations.

RUBBER CUNSUMPTION DROPPED IN NOVEMBER

Consumption in Month Reported as 28,080 tons, Against 29,836 tons in October—November Imports of 41,150 tons were 13,027 tons over Consumption Figures.

Consumption of crude rubber in American factories during November aggregated only 28,080 tons, compared with consumption the previous month of 29,836 tons and September consumption of 32,904 tons. November consumption was not only 1,756 tons under that of October, but 13,027 tons under November importations, which the Rubber Association of America reported as 41,150 tons.

Stocks of crude rubber on hand and in transit, as of November 30, were 69,385 tons, compared with 64,989 tons on October 31, an increase of 4,396 tons. This is the largest stock for any month this year. Crude rubber afloat to United States ports, however, showed a decline of 5,619 tons, being reported as 47,311 tons, against 52,930 tons afloat at the end of October. The report of the Rubber Association shows that 39,212 tons were plantations, compared with plantation imports of 25,872 tons in October and 33,066 tons in November, 1925.

New York continues to be the chief port of arrival, with 36,199 tons of plantations received in November; Los Angeles received 1,059 tons; 825 tons came in at Baltimore; 527 tons at Boston; 355 tons at Philadelphia; 203 tons at Seattle; and 203 tons at Portland, Ore.

Singapore shipped 16,072 tons of plantations; Penang 4,130 tons; Colombo 3,981 tons; Belawan-Delhi 3,269 tons; London 3,118 tons; Batavia 1,873 tons; and Sourabaya 1,751 tons.

Comparisons of imports of various grades of crude rubber for the eleven months ended Nov. 30 and the corresponding period last year are shown in the following table:

	NOV.-1925	NOV.-1926	Total Importations 11 months ending, NOV. 30th. 1925	1926
Plantations	33,066	39,212	320,760	356,059
Paras	1,629	1,025	14,426	11,689
Africans	260	296	2,559	3,481
Central	690	379	4,184	4,488
Guayule	379	195	3,176	3,316
Manicoba and) Matto Grosso)	26	—	213	26
TOTALS	36,050	41,107	345,318	379,059

FINAL REPORT RAISES ESTIMATE 219,000 BALES

Last Report for the Season to be Made by Department of Agriculture Puts Cotton Crop at 18,618,000 Bales — Ginnings, 14,644,966 for Entire Belt.

A cotton crop of 18,618,000 bales is estimated for this year by the Crop Reporting Board of the Department of Agriculture, which on Dec. 8 made its final report for the season. The estimate is based on the condition of the crop Dec. 1 on 47,653,000 acres left for harvest. The figure is materially larger than that shown in the last report, when indications to Nov. 14 promised a crop of 18,399,000 bales.

The indicated yield per acre is given as 187 pounds, compared with 167.2 pounds last season. Abandonment is estimated at 2.9 per cent of the acreage under cotton cultivation on June 25, comparing with an abandonment of 4.2 per cent for last season, and a ten-year average of 3.5 per cent.

"The cotton season of 1926 has presented some sharp contrasts," it was said in the report. "The season opened with by far the largest cotton acreage ever planted, with good stands generally reported, with sales of fertilizer the third highest on record, with an ample supply of moisture in Texas and Oklahoma, where drought is often the limiting factor, and with a relatively small number of boll weevils emerging from hibernation.

"This combination of favorable factors seemed to be largely offset, however, by the cool weather, which continued from March through July, by early summer drouth in the northern Piedmont area, and by the cotton hopper, which insect was unusually prevalent over nearly the whole belt.

"...After the first of August the crop was favored by warmer weather, and in the cotton belt as a whole temperature continued above normal until late October. During the period few sections suffered from excessive moisture or drought and the cotton plants put on and matured a crop larger than was thought possible earlier in the season.

"After it became evident that most of the late set fruit would probably mature before frost there remained the question of how much cotton would be picked. On account of the low prices, growers have been unable or unwilling to pay as much for picking as last year, which has somewhat further delayed the harvest. Allowances have been made by the Crop Reporting Board for the probability of some loss of open cotton from beating storms and for the tendency of growers to leave low grade cotton unpicked because of the low prices.

"With the large amount of cotton still remaining to be picked, particularly in the western portion of the belt, the final ginnings are more dependent than usual on weather conditions after this date. Unfavorable weather conditions during the remainder of December and January might easily increase the quantity of cotton left unpicked beyond that allowed for in the estimate. On the other hand a continuation of favorable weather might reduce the quantity of cotton that will not be picked."

Simultaneously with the issuance of the Board's announcement, the Census Bureau reported total ginnings, as of Dec. 1, of 14,644,966 running bales, a figure considerably below that which had been expected. This figure compares with ginnings up to the same date last year of 13,870,507, and of 12,237,689 as of Dec. 1, 1924.

Fisk Curtails Production

Production at the Chicopee Falls, Mass., factory of the Fisk Rubber Company was placed on a four-day basis during the first week in December. The curtailment is said to be only temporary and resumption of a five-day schedule is anticipated in the near future.

OPERATIONS IN CANTON FACTORIES CURTAILED

Considering the rubber factories in the Canton, Ohio, district as a whole, operations are now on a basis of 65 per cent capacity, which is a decrease of about 10 per cent from October production and 20 per cent from September, at which time the plants were operating from 85 per cent to capacity.

About 500 casings a day are being manufactured at the factory of the Triangle Tire & Rubber Co., Canton, a decline of 100 tires a day from recent operations. The Milestone Tire & Rubber Co., East Liverpool, also has curtailed production because orders in November fell off considerably. Slowing up in orders has also caused a let down in production at the plant of the Superior Cord Tire Co., Chester, W. Va., but the company intends to raise its schedule early in 1927. The plant of the Tuscan Tire & Rubber Co., Carrollton, Ohio, continues to operate on about the same schedules as in previous months, with present production about 400 tires a day.

The Wilson Rubber Company, Canton, manufacturers of rubber gloves and similar products, is operating 24 hours a day. The Salem Cord Tire Company, Salem, also reports no change from recent operations. It is said that demand for the company's tubes was greater in November than in earlier months.

Lehmann Quits Goodyear

Capt. E. A. Lehmann, German Zeppelin expert and executive officer on the flight of the ZR-3, renamed the *Los Angeles*, across the Atlantic in 1924, will leave the Goodyear-Zeppelin Corporation soon to return to Germany. He will again become affiliated with German Zeppelin interests in the construction of three giant dirigibles of 5,000,000 cubic feet capacity for a contemplated air passenger line from Spain to Argentina. Capt. Lehmann expects to leave Jan. 1.

The Familiar Taxi Assumes a Novel Form

If this novel motorcycle taxicab, which appeared recently on the streets of Newark, N. J., is destined to become as popular as anticipated, tire manufacturers may look forward to an improved demand for motorcycle sizes. At least, increasing congestion should make this diminutive form of cab welcome to traffic officers at the busy intersection of Broad and Market Sts. in the New Jersey metropolis. The cab carries the usual rate signs, lights and meter. Two persons of normal size fit into it comfortably.

Validity of Weiss' DPG Patent Upheid in Decision on Appeal

Decision Handed Down on December 8 by U.S. Circuit Court of Appeals for Third Circuit Reverses Eearlier Verdict—Hon. John W. Davis Argued Appeal for Dovan and Weiss.

Reversing the verdict of the District Court of U. S. for the Western District of Pennsylvania in February of this year, Judges Buffington and Davis of the U.S. Circuit Court of Appeals for the Third Circuit have just granted the Dovan Chemical Corporation of New York an outstanding victory in its attempt to prove the validity of Weiss' patent No. 1,411,231 on the use of di-substituted guanidines, especially D.P.G. as accelerators of vulcanization. This decision handed down on December 8 was briefly mentioned on page 220 of the December 10 issue of THE RUBBER AGE.

The effect of this decision is expected to be of far-reaching importance if the case is not appealed to the Supreme Court of the United States, which would ordinarily be the next step. Opinion gathered in the trade, however, is that there is little likelihood of such an appeal at this time. Thus every producer of DPG in this country will now either have to be licensed by Dovan Chemical Corp. to make or sell any di-substituted guanidine class of accelerators or discontinue entirely their manufacture or sale.

Shortly after the adverse decision of February 1926, Dovan filed an appeal; the case came to trial in Philadelphia on October 3 and lasted until October 15. Attorney for Dovan were Messrs. John W. Davis, who argued the appeal on Oct. 6, J. J. Kennedy and J. S. Wooster. For the defendant, Corona Cord Tire Co., the firm of Pennie, Marvin, Davis & Edmonds of N. Y. City appeared. Messrs. Edwards and Barrow were the trial attorneys.

Mention Kratz's Paper

In handing down the decision the Judges stressed the point that D. Kratz had not disclosed any concrete method for the use or preparation of D. P. G. in his paper delivered at the meeting of the Rubber Division of the American Chemical Society on September 2, 1919 which was prior to the filing of the Weiss application for the patent granted him on the use of D.P.G. "It will thus appear", said the decision after quoting Dr. Kratz' testimony to the effect that he had no intention of disclosing any information in that paper which any company or competitor could transpose directly for practical purposes, "that the paper of Kratz and his associates had no effect on the working art. No one made any practical use of it. No one in the art selected D.P.G. from the several accelerators named in its tables and used it in the vulcanization of rubber. No special emphasis was laid on D.P.G. in comparison with other substances so named and it is quite evident that if advance in the art had stopped with the Philadelphia paper the art would not have had the information and advance disclosed by Weiss in his patent specification and would not have made the successful advance which followed Weiss' disclosure. Such being the negative results produced by the paper, we cannot accede to the proposition that its theoretical statements, valuable as they were, forestalled or even foreshadowed the clearcut, practical conception which Weiss then purposed and which he later practically worked out, namely the successful pioneer making of the D.P.G. commercially and when made successfully and pioneeringly using it in the rubber vulcanizing art."

This admission, not brought out in the first case, was one of the main deciding factors in the opinion of the Judges. After discussing the claims of Weiss in his patent on the use of D.P.G. and later patent on the commercial manufacture of the material, the decision continues in part as follows:

"Without entering into details and a discussion of the proofs we may say they satisfy us that Weiss was the first to instruct the rubber art in this mode of rubber vulcanization and that up to his work the rubber had made no use of D.P.G. in vulcanization and no one had therefore disclosed to the art or instructed it how D.P.G. could be practically produced or, of course, practically used."

It was in the period from 1917 to 1919 that both Kratz and Weiss discovered the possibilities of D.P.G. as an accelerator but the first time that it was offered commercially to the rubber industry was in 1920 after M. L. Weiss had interested Messrs. H. S. Doty and Van Lear Woodward of the States Metal Co., of N. Y. and convinced them that D.P.G. had exceptional merits. They founded the Dovan Chemical Corporation for the express purpose of manufacturing and selling this material. In May, 1920, a small factory was equipped which, by August, succeeded in producing small amounts of the new accelerator. Because of lack of capital, the operations and apparatus of this plant were exceedingly crude and production was slow.

The lack of capital was only one of many difficulties that arose. The rubber companies were slow to recognize the value of the new accelerator and it was only after several months of extensive efforts that it was put across and a demand created. In the fall of 1921 the Dovan factory burned to the ground and other companies, realizing the value of the new accelerator and knowing of the difficulties of Dovan, began to manufacture D.P.G. However, a new factory was soon equipped by Dovan and they again resumed the manufacture of this product.

In the meantime Dovan had applied for, and later obtained patents in several countries on the use of D.P.G. as an accelerator for the vulcanization of rubber, and on a process for its manufacture. This patent was filed on November 12, 1921 by Weiss in the United States and was granted on March 28, 1922. It is known as U.S. Patent No. 1,411,231.

History of the Litigation

Under the grants of this patent, Dovan licensed Roessler & Hasslacher to manufacture D.P.G. but National Aniline & Chemical Company claimed that the Weiss patents were invalid and therefore started the manufacture of this product. The result of this action was that Dovan instituted a suit against National Aniline in the District Court of New York and Dovan won in a decision handed down in January, 1923. An appeal was taken by National and in May, 1923 the original decision was reversed and National obtained a verdict by the New York Court of Appeals.

The Grasselli Chemical Co., in the meantime controlled the original Hoffman Patent No. 1,149,580 and Dovan and Roessler & Hasslacher, were licensed to manufacture D.P.G. under this patent.

The Dovan Chemical Company acting in the belief that the decision of the N. Y. Court of Appeals in its case against National Aniline was not justified by the facts, brought suit against the Corona Cord Tire Co., East Butler, Pa., as a user of D.P.G. This was an attempt to again validate the Weiss patents and as already stated, the Court held that Weiss could not be declared the discoverer of D.P.G. as an accelerator and therefore held the patent invalid. It was that decision which was appealed by Dovan resulting in the reversal just announced.

History of the Weiss Patent 1,411,231 on DPG

Nov. 12, 1921—Application Filed
Mar. 28, 1922—Patent Granted
January, 1923—Dovan obtained verdict in District Court of New York preventing National Aniline & Chemical Co. from manufacturing diphenlyguanidine.
May, 1923—On appeal to New York Court of Appeals, National Aniline obtained reversal of above decision.
Feb., 1923—Dovan's last suit against Corona Cord Tire Company as a user of D.P.G. brought in U.S. District Court for Western District of Pennsylvania.
Dec., 1926—On appeal in above case Dovan was awarded a reversal in a decision handed down by U.S. Circuit Court of Appeals for the Third District.

LITCHFIELD TELLS OF PLANS FOR EXPANSION

California Goodyear to Build Addition Costing $550,000, with Equipment, and a Branch Factory is Contemplated at Sydney, Australia, to Cost $1,500,000.

While Paul W. Litchfield, president of the Goodyear Tire & Rubber Co., Akron, was in Los Angeles recently he told of plans of his company for an addition to the factory of the Goodyear Tire & Rubber Co. of California and for the establishment of a branch factory in Australia.

Work on an extension to the present Los Angeles plant at 6701 Central Ave. will start in the near future and it is planned to erect a building similar to the addition completed last spring. The building is estimated to cost $250,000, and equipment and machinery approximately $300,000. With these increased facilities, the daily capacity of the Los Angeles factory will be raised about 1,000 tires to a total of 8,000. Some 250 to 300 more employees will be hired, raising the total number of hands on the payroll to 2,300. In addition to this number of factory workers, the company has 600 persons at work in its cotton mill and 200 in the offices.

Will be West Wing

The new building will be a west wing adjacent to the present warehouse, and will be of brick and reinforced concrete construction. Five stories in height, 100 by 200 feet, it will provide a total floor space of 100,000 square feet.

Mr. Litchfield declared that the addition is made necessary to meet the growth of demand in territory west of Denver. He stated that production at the main factory at Akron will also be increased about 4,000 tires a day to meet the expected increase in demand in eastern States during the coming year.

Growth of the Goodyear Company's business in Australia has been so great, owing to the increase in the use of automobiles, that it feels warranted in establishing a factory there, he said. The company already has representatives in Australia, but it is contemplating the erection of a branch plant at Sydney, Australia, to cost between $1,500,000 and $2,000,000. Several officials from both Los Angeles and Akron factories will go to Sydney to plan the new plant. It is expected that work will start about the middle of January.

The announcement was also made by Mr. Litchfield Dec. 14 that a modern factory with a capacity of 1,000 tires and tubes a day would be built near Sydney, Australia. It is expected that this factory will be in operation by December, 1927.

Following a survey of available land by Goodyear engineers, a 20-acre tract was purchased and plans for the erection of the factory will be completed by the time this is read.

This factory will be the fourth tire plant of the Goodyear company outside of Akron, the other three being located at Bowmanville, Canada, erected in 1909; at New Toronto, Canada, built in 1917; and the California plant, completed in 1920.

The personnel of the Australian factory has already been partly named, including W. G. Kither, vice-president, William Urquhart, factory manager; and Robert C. Metzler, secretary and treasurer. Mr. Kither, a native Australian, has been managing director of the Goodyear Tire & Rubber Co., of Australia, and has been affiliated with the export organization since February, 1916; his first connection with the company was as manager of the Adelaide branch.

Mr. Urquhart was until recently mechanical engineer at the Los Angeles plant, and has been with the company since December, 1905, beginning as a draftsman in the engineering department. Mr. Metzler has been resident manager of the Southwest Cotton Company, the company's Arizona subsidiary, going there in 1917 as secretary and treasurer. He was formerly in the cashier's department at the Akron offices.

Mr. Urquhart is already in Sydney and Mr. Metzler, accompanied by A. J. Slay, formerly assistant purchasing agent in the California organization who will have charge of similar work in Australia, and B. M. Morehead, construction engineer for the Akron engineering department, will leave for Australia Jan. 5.

Exchange Adds Governors

The following members were added to the board of governors by the Rubber Exchange of New York, Inc., thus increasing the board to 15: L. D. Tompkins, J. W. Rowland, Herman Muehlstein, W. L. Harriss, F. H. Robinson, Jr. and Robert L. Baird. The new governors were welcomed by the Exchange at a dinner Dec. 16 at the Hotel Roosevelt, New York.

SETTLEMENT ANNOUNCED IN ACCELERATOR SUIT

A final decree in the U.S. District Court for nothern Ohio has been obtained by the Portsmouth Dye & Chemical Co., Portsmouth, N. H., in its suit against the Rubber Service Laboratories, Inc., of Akron, enjoining the latter company from the further manufacture and sale of POTG rubber accelerator which the former makes under the U.S. Patent No. 1,597,233 granted August 24, 1926, to its Mr. Albert C. Burrage. Since the plaintiffs had waived all accounting for damages or costs, neither company recovers costs against the other and the question of a fiscal settlement does not enter.

It is understood that this accelerator has been supplied to the trade by houses other than the defendants in the case just closed and apparently such action, if continued, will now clearly constitute infringment unless a licensing arrangement is reached with the New Hampshire company. This action has been watched with care by many factors in the rubber industry since it is also said that the above named patent has been declared in interference with another patent filed by a large producer of rubber accelerators.

Make Bid for Factory

The Black Hawk Tire & Rubber Co., Des Moines, Ia., is one of the companies which has filed bids with Mylo Lee, receiver for the Iowa Cord Tire Company, East Des Moines, for the factory and real estate of the defunct company.

Elect New Director

Hutchenson Page has been elected a director of Rogers, Brown & Crocker Bros., Inc., 21 East 40th St., New York, crude rubber importers to fill the vacancy caused by the death of D. Fairfax Bush.

ANNOUNCEMENT

MR. CLYDE E. LOWE

President of

THE CLYDE E. LOWE CO.

CLEVELAND, OHIO

Will be at the Hotel Biltmore, New York City, during the week beginning January 9, 1927, and will be glad to confer with all manufacturers desirous of obtaining any information on the uses and advantages of

CIRCULAR MANDRELS

In Inner Tube Manufacture.

APPROPRIATIONS FOR AIRSHIPS NECESSARY

P. W. Litchfield Writes that if No Funds are Appropriated at December Session of Congress, Rigid Airship Industry in the United States Must be Abandoned.

P. W. Litchfield, president of the Goodyear Tire & Rubber Co. and the Goodyear-Zeppelin Company, who has been for many years a leader in lighter-than-air aeronautical work and was instrumental in bringing the Zeppelin patents to the United States, sees a great need for an appropriation for airship construction at the next session of Congress. Mr. Litchfield confidently believes that if no funds are set aside for this work at the coming session, the rigid airship industry in this country must of necessity be abandoned.

In a letter to the Akron *Beacon Journal*, Mr. Litchfield gives concrete facts as the basis for his contention:

"Of the expenditures made for aeronautics since 1920, 95 per cent have been for heavier-than-air, according to the best estimates, and only five per cent for lighter-than-air," he writes.

"In the fiscal years of 1920-1926 approximately $180,000,000 has been appropriated by Congress for aeronautics, of which lighter-than-air for army and navy received a total of $7,500,000, exclusive of maintenance of the naval air station at Lakehurst, N. J.

Two Airships Authorized

"The last Congress took an important step forward by authorizing the construction of two airships, to be helium filled, and each more than twice the size of the Los Angeles.

"Actual appropriation of money under that authority, however was deferred, and according to newspaper reports no appropriation for construction is included in the budget for the coming session.

"If no appropriation is made this winter, it will mean that airship development in this country will be definitely stopped for a year and a half or two years, and as far as the industry is concerned will be postponed indefinitely...

"A similar situation obtains in industry. This company has been building lighter than air craft for the government since 1914. Two years ago we brought to America a group of experts headed by Dr. Karl Arnstein, builder of the Los Angeles and of some 70 war-time airships, making up probably the most impressive organization of engineering talent and experience in rigid airship construction available in the world.

"However, the Goodyear company is only incidentally a manufacturer of air craft, and it is obvious that the opportunity to utilize the genius of Dr. Arnstein and the building experience of his American and Zeppelin associates, cannot be held open indefinitely.

"No large amount of money is needed to start the work. But is none is appropriated at the December session, the rigid airship industry in this country will have to be abandoned," Mr. Litchfield concludes.

Mr. Litchfield's agitation for an appropriation for airship construction is probably to have no results, for President Coolidge in his annual message declared that no further funds should be set aside for such purposes.

Mr. Litchfield, accompanied by Dr. Karl Arnstein, had appeared before the House subcommittee on the budget to make a personal plea. He testified concerning the amount of money spent on the work by private agencies and sketched the efforts of the Goodyear Company during recent years. His testimony covered practically the same ground as his letter, but was in greater detail.

W. D. Young of the Goodyear aeronautical department also spent some time in Washington in the interests of his company.

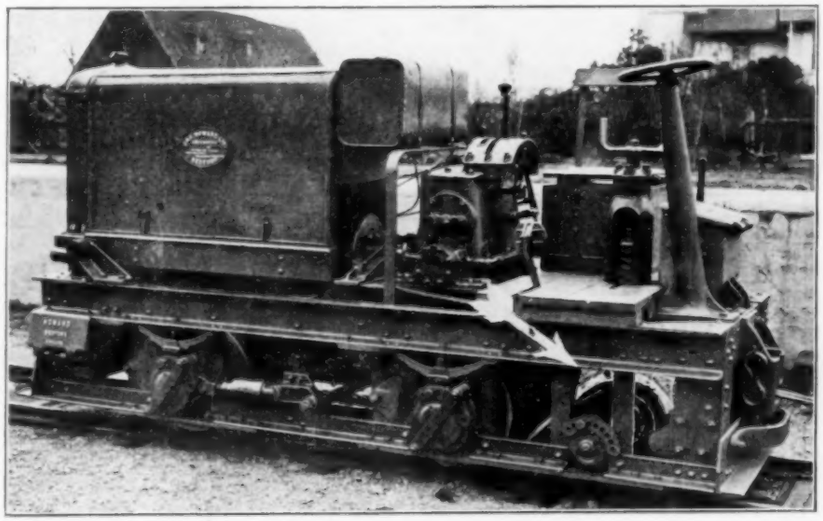
SOLID TIRE DEVICE USED ON LOCOMOTIVE

DESIGNERS of small locomotives intended to haul comparatively heavy loads have long been troubled with the difficulty of securing satisfactory adhesion between the driving wheels and the rails. The limit of the tractive power of which a locomotive is capable is about one-fourth of the total weight on the driving wheels. Thus, assuming all the wheels of a three-ton locomotive to be driven, the engine could not put more than a three-quarter ton pull on the draw bar without slipping its wheels. Under adverse weather conditions the adhesion factor may sink to one-sixth or even less.

To overcome this difficulty there has recently been developed in England a new 25-horsepower locomotive for a 2-foot gauge track which raises the maximum of traction power by means of an auxiliary device in which rubber plays the most important part.

All the four rail wheels of the new locomotive are drawn by the engine, and under the rear part of the frame, as shown by the arrow in the accompanying illustration, is a double wheel shod with solid rubber tires, which by means of a vertical screw may be made to engage a track of wood or concrete arranged centrally between the rails. This double rubber-tired wheel is driven off the axle of the rear rail wheels and is always revolving when the locomotive is moving.

When made to engage the central track, the weight thrown on the double wheel is of course taken off the other wheels, but there is a decided gain in adhesion, owing to the high gripping factor of the rubber tires. In fact, by means of this auxiliary device the hauling capacity of the locomotive is increased by 50 per cent or more. On level stretches the central track would not be necessary but on gradients it would enable loads to be taken up which would otherwise overtax the locomotive. The first of these locomotives (which are built by J. & F. Howard of Bedford) is now at work in Leicester.



Showing How Better Traction is Obtained on Small English Locomotives by the Use of Solid Rubber Tires

Mead Appointed Manager

Melvin R. Mead has been appointed manager of the St. Louis branch of the Firestone Tire & Rubber Co. to succeed W. G. Sabine, who has been St. Louis manager for many years but is now transferred to Akron. A. J. Hillman and M. D. Kallfield will assist Mr. Mead. The new St. Louis manager has been associated with the Firestone company for the past five years, and has been in the tire business for 14 years.

Lee Opens Branch

The new distribution branch of the Lee Rubber & Tire Co., New York, a $90,000 structure at Fourth and Chestnut Sts. Evansville, Ill., was opened for business Dec. 4. Albert Garthwaite, general manager, and Harry Fields, sales manager, attended the opening. A. R. Brown is manager of the branch.

Financial Items

Rubber and Motors

ANNUAL REPORT FILED BY BOSTON WOVEN HOSE

The Boston Woven Hose & Rubber Co., East Cambridge, Mass., has filed with the Massachusetts Commissioners of Corporations its annual report for the year ended Aug. 31, 1926. The report shows:

Assets: Real estate, $1,989,577; machinery, $1,685,501; furniture, fixtures and tools, $29,916; merchandise, $1,797,182; notes receivable, $4,885; accounts receivable, $1,099,101; cash, $862,561; patent rights, $1.00; prepaid expense, $79,899; total, $7,592,591.

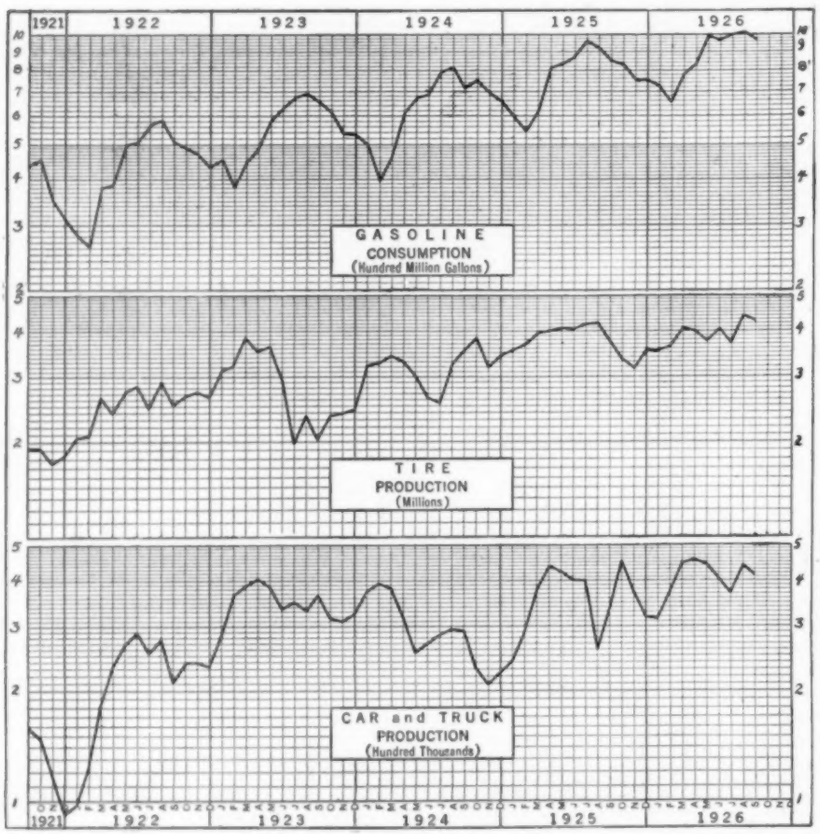
Liabilities: Preferred stock, $750,000; common stock, $4,300,000; accounts payable, $290,637; dividends payable, $129,000; surplus, $1,925,676; reserve taxes, $198,278; total, $7,597,591.

Miller Declares Dividend

The Miller Rubber Company, Akron, Ohio, has declared a quarterly dividend of 50 cents a share on common stock of no par value. The dividend is payable Jan. 25, 1927, to stockholders of record Jan. 5.

Late Stock Prices

	Last Price Dec. 15	Last Price Dec. 2	1926 High	1926 Low
Ajax	7⅞	7½	16	7½
Faultless	41½	—	43½	34
Firestone	115	115	125	100
do 6% pfd.	102	101½	103½	99
do 7% pfd.	98	98	100	96½
Fisk		16¾	26¼	14
do 1st pfd.	79½	79	84¼	76⅞
General	150	150	375	140
do pfd.	110	110	110	106
Goodrich	43	39	70¾	39
do pfd.	95	96½	100	95
Goodyear Com.	26½	29	40	26½
do pr. pfd.	106¼	106½	108⅝	105⅝
do pfd.	96½	99	109¾	96½
Hood	47⅝	46	68¾	57½
India	29	29	165	29
Intercontinental	14	14	21¾	13½
Kelly Springfield	9½	9½	21½	9½
do 1st pfd.	—	—	74¼	60
do 8% pfd.	45½	—	73¾	44¼
Lee	7	—	14	6¾
Miller	33	33	44¾	30
do pfd.	100	100	104	98½
Mohawk	24	30	65	24
do pfd.	67	70	80	67
Norwalk	—	—	15⅛	4½
Seiberling	20¼	21⅝	28½	19⅛
do pfd.	97	95	97	92
Star	8	10	15	8
U. S. Rubber	60⅛	57⅛	88¼	50¼
do pfd.	106	105	109	101½
U. S. Rubber Reclaiming	12	12	21¼	11
do pfd.	—	—	90	85



This chart which was recently prepared by the statistical department of the Rubber Association shows the relationship between the production of motor vehicles, the output of auotmobile tires and the consumption of gasoline in the United States since 1921.

B. F. GOODRICH SAID TO BE IN GOOD SHAPE

Company Enjoyed Good Volume of Business During Year and Has a Surplus of Nearly $25,000,000, Including $4,000 Contingency Reserve, to Fall Back On.

The decline in the common stock of the B. F. Goodrich Company, Akron, in common with some other rubber company stocks, has directed attention in financial circles to the safety of the current annual dividend, amounting to $4. However, it is believed by well-informed men that the dividend is in no immediate danger and that its maintenance during 1927 depends very largely upon future operations.

Common dividend payments were suspended by the Goodrich Company during the depression of 1920-1921, due to unsatisfactory operating profits and the necessity for large inventory write-offs which almost wiped out the profit and loss surplus of about $60,000,000. Payments were resumed in the summer of 1925 at the $4 annual rate, at which time the profits and loss surplus had been built up to over $20,000,000. At the end of 1925 the profit and loss surplus totaled almost $25,000,000, including a $4,000,000 contingency reserve.

Although the results of operations this year are said to be not as satisfactory as those of 1925, due to the decline in crude rubber prices, better earnings will probably be shown during the last half. In the first six months, the Goodrich Company barely earned its preferred dividend. But it is believed that the company will find it feasible, should such a move be necessary, to dip into its surplus to make up the difference between its earnings and the amount paid out in dividends.

It is said that the Goodrich Company has been doing a satisfactory business this year in tires, footwear and mechanical rubber goods. Any failure to earn a satisfactory profit on the volume of sales will be due almost wholly to severe inventory depreciation caused by the gradual decline in rubber quotations.

Steps taken by important rubber and automobile manufacturers to stabilize the crude rubber market in the United States through a purchasing syndicate are expected to be a help not only to the Goodrich Company, but to all other large manufacturers as well.

Faultless Votes Extras

The Faultless Rubber Company, Ashland, Ohio, has declared an extra dividend of 1¾ per cent on preferred stock, payable Jan. 2. An extra dividend of 50 cents on common stock is payable Jan. 3.

FORD DENIES PLANS TO MANUFACTURE OWN TIRES

Henry Ford and C. W. Avery of the Ford Motor Company have denied that definite plans have been formulated for the growing of rubber and the manufacture of tires for the general market by the Ford Company.

"There is nothing in it," said Mr. Ford, referring to a dispatch printed in Chicago which said that he had engaged Professor Carl La Rue of the University of Michigan to survey the Amazon River districts for suitable rubber growing areas.

Mr. Avery was a little more loquacious: "We have gone so far as to consult authorities on the production of rubber and the localities where rubber can be profitably grown. The Ford Company probably would not care to enter the industry as rubber producers and manufacturers unless driven to it by the prohibitive cost of rubber as now supplied. Professor La Rue is one of the many authorities on the subject we have consulted, but there is no definite plan for sending him to the Amazon district."

Rumors that the Ford Company contemplated the manufacture of tires on a commercial scale apparently had their source in the discovery that the company was already producing tires at one of its large plants. But although this fact has been known to rubber executives for some time, the person who made the "discovery" evidently was ignorant of the fact that these tires were being manufactured only for experimental and research purposes and jumped to the conclusion that Mr. Ford planned to enter the rubber business on a commercial scale. The principal reason for this work on the part of the Ford Company is said to be in the nature of a check on tires costs. In this way the company is able to obtain a very accurate knowledge of whether rubber manufacturers supplying it with tires are making unwarranted profits.

All of the tires produced by the Ford Company are used on cars employed about the various plants and none of them are placed on those shipped from the factory.

FOUR NEW WAREHOUSES STARTED BY GOODYEAR

According to an announcement by C. C. Slusser, vice president, the Goodyear Tire and Rubber Company has started the construction of four new warehouses in East Akron. One of the buildings on Seiberling Street will have 171,000 square feet of floor space. The other three warehouses will be on Martha Ave., near the present Plant Two; one is to be three stories in height and the others five. When completed, the new buildings will add 348,000 square feet of floor space to the Goodyear factories.

GENERAL WILL ERECT ADDITION TO PLANT

It was recently announced that bids are being received by the General Tire & Rubber Co., Akron, on an addition to the mill and calender rooms. The new unit, which will permit readjustment of machinery and facilities to bring several recent additions into better and greater use, will measure 240 by 100 feet.

Officials pointed out that the decision to erect the new unit at this season of the year reflects the healthy condition of the company's business.

To Make Rubber Heels

The Furcolo Rubber Heel Manufacturing Company, Wilmington, Del., was recently incorporated with an authorized capital of $200,000 to manufacture rubber heels. Incorporators are Franklin L. Mettler, M. E. Mettler and P. M. Golkey. Franklin L. Mettler, Wilmington, Del., is attorney for the corporation.

Markets New Tire Plug

The Crost Automobile Accessories Company, of which Albert Crost is president, recently designed a new rubber plug for repairing holes in tires and is marketing it through a newly-organized company, the Rubber Plug Company, 2482 East 22d St., Cleveland, Ohio.

Two Wishes of the Season

That you might know our appreciation of your courtesies in the old year —

That 1927 may bring you abundant happiness and many opportunities for us to cement our friendship.

THE CLYDE E. LOWE CO.

FIGART RUBBER REPORT TRANSLATED BY MEXICO

In an attempt to encourage the planting of rubber in its southern states, the government of Mexico is printing a Spanish edition of "The Plantation Rubber Industry in the Middle East" by D. M. Figart. The book is perhaps the best-known of all the reports resulting from the world-wide crude rubber survey of the Department of Commerce.

Many parts of southern Mexico are known to be eminently qualified for rubber growing and it is the hope of the Mexican government that the wide distribution of Mr. Figart's book, suitably translated into Spanish, will encourage many peasants as well as large estate owners to undertake rubber culture. Plans call for the mailing of thousands of copies.

The translation was made with the consent of the United States Department of Commerce.

Traffic Meetings in Akron

Two sub-committees of the Traffic Committee of the Rubber Association of America met in Akron on December 7 and 8 to prepare appeals for lower railway shipping rates on rubber mats, matting and tiling, and on carload shipments of solid tires. The railroads will grant the traffic representatives a hearing in January.

The Philadelphia Rubber Works Company

Manufacturer of

RECLAIMED RUBBER

of

STANDARDIZED QUALITY

NEW YORK
52 Vanderbilt Ave.

AKRON, OHIO PHILADELPHIA, PA.
Land Title Bldg.

CANADIAN TARIFF ON RUBBER GOODS URGED

C. H. Carlisle, President of Goodyear Tire & Rubber Co. of Canada, Ltd., Makes Strong Plea for Adequate Protection at Annual Meeting in Montreal.

"I firmly believe in a protective tariff that will give to Canadian manufacturers the full opportunity of the Canadian market," declared C. H. Carlisle, president of the Goodyear Tire & Rubber Co. of Canada, Ltd., at the annual meeting of the company in Montreal during the last week in November.

"At the same time I have been adverse to the manufacturer taking an undue profit through the protection afforded him," he continued. "A protected market should mean lower prices rather than higher prices to the consumer. An adequate tariff enables the manufacturer to increase his volume of business and thus reduce his overhead.

"Our company is small compared with many companies in Canada, but a few figures give some idea of what this industry means to the country at large. We employ 3,058 people, and our payroll for the year just closed was $3,463,565. We paid for transportation, freight and express, $1,326,556; for telephone and telegraph, $31,552; for postage, $39,316; for taxes, $415,570; for duty, $272,834; and for insurance $102,147.

"We bought goods from 450 different Canadian producers to the amount of a number of million dollars. During the entire year we operated on a constantly declining rubber market.

"About April 1 the company purchased all the common stock of the Goodyear Cotton Co. of Canada, Ltd., at St. Hyacinthe, Quebec. The Goodyear Cotton Company was formed for the purpose of buying and operating the Manhasset mill. This mill is practically new and stood on the books of the company at $1,475,336; its equivalent included over 15,000 spindles. The Goodyear Cotton Company purchased the mill for $775,000, paying for it in bonds and stocks.

"Additional equipment has been installed, making the total number of spindles in excess of 20,000. This mill is competing with the lowest competitive markets and making a good profit. All profits from the mill, after paying interest on the bonds, and dividends on the preferred stock, amounting to $57,250, revert to the company."

Of a total of 2,820 stockholders in the Goodyear Tire & Rubber Co. of Canada, Ltd., 2,540 reside in the Dominion.

CATALPO!

Personal Items-

H. S. Firestone, president of the Firestone Tire & Rubber Co., and W. O. Rutherford, vice-president of the B. F. Goodrich Company, are members of the new Highway Education Board elected at a series of recent meetings at Washington. The safety and Firestone essay contests, which have in former years been participated in by millions of school children through the cooperation of the Board with the Bureau of Education of the Department of the Interior, will be continued under direction of a standing committee of the Board.

* * *

R. M. Gattshall, advertising manager of the Republic Rubber Company, Youngstown, Ohio, is the author of an article in the current issue of *Mill Supplies*, in which he strongly advocates that rubber manufacturers deal through wholesale distributors instead of direct with stores and factories. He sums up his argument by pointing out that the wholesale distributor carries diversified stocks adapted to his community and chosen from the offerings of manufacturers all over the country.

* * *

H. B. Hankinson, who had been assistant to the general manager of the Star Rubber Company, Akron, was recently made general sales manager. Starting with the old Diamond Rubber Company as a salesman over 20 years ago, Mr. Hankinson later became branch manager at New York for the Mohawk Rubber Company. He resigned as assistant sales manager of the India Tire & Rubber Co., to join the Star company.

* * *

John Bill, for many years superintendent of the stitching department of the National India Rubber Company, the U.S. "Keds" plant at Bristol, R. I., and more recently in charge of that department at the Cambridge Rubber Co., Cambridge, has joined the Converse Rubber Shoe Company staff where he will have charge of the quarter, cement, and stitching departments.

* * *

William H. Van Horn has become assistant advertising manager of the Goodyear Tire & Rubber Co., Akron. Formerly he was business manager of the State Normal College and is also a former commander of the American Legion.

* * *

Joseph F. Stephens, who has been associated with the company since 1919, has been appointed manager of belting sales for the Goodyear Tire & Rubber Co., Akron. Mr. Stephens is an alumnus of both Ohio State University and the Carnegie Institute of Technology and is considered an expert on the installation of various mechanical rubber goods.

* * *

Thomas P. Cawley, resident manager of the footwear branch of the United States Rubber Company at Portland, Me., who has been in the employment of the company for the past 15 years, was recently transferred to Chicago. He is succeeded in Portland by Kenneth C. Blackington who has been northern Maine representative of the United States Rubber footwear division.

* * *

James M. Eckels, for the past eight years manager of the Toledo branch, has tendered his resignation from the Ohio Rubber & Textile Co., Willoughby, Ohio, to take effect Dec. 31. Although he has not divulged his plans for the future, he will probably continue in the rubber business in a jobbing capacity, handling mechanical goods direct from the factory.

CATALPO!

THE NAUGATUCK CHEMICAL COMPANY
Materials for the Rubber Goods Manufacturer
NEW YORK

THE products listed below are being furnished regularly to the manufacturers of rubber goods. This large number of active materials shows the close attention given to the needs and interests of the Rubber Trade.

HEPTENE	—Accelerator for tubes, tire carcass, rubber bands, and pure gum goods generally.
MONEX	—Ultra-accelerator for general use.
TRIMENE BASE	—Accelerator for tire treads, footwear, and rubberized sheetings.
TRIMENE	—Accelerator made to replace HEXA.
CRYLENE	—Accelerator for hard rubber goods, and cheap black mechanicals. Made in two forms—the hard resinous, and the paste.
LITHEX	—Co-accelerator for use with litharge in all types of goods.
VGB	—Antioxidant for rubber, balata, gutta, guayule, and reclaim.
ZBX	—Zincbutylxanthate accelerator for use with various amines in making stocks and cements to vulcanize at room temperature or above.
MINERAL FLOUR	—Florida clay, the highest reinforcing clay available.
LABELS	—All-rubber two-color brands for tires, hose, belts, etc.
LATEX	—Normal consistency, and in concentrations up to 80% rubber content.
LOTOL	—Modified latex products for many uses. Penetrating, adhesive, and spreading.

THE NAUGATUCK CHEMICAL CO.
1790 Broadway New York City

New Factory Equipment

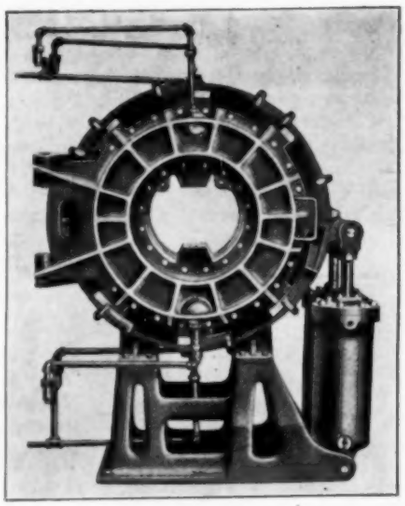
THE "MINUTE MAN" WATCH CASE VULCANIZER

A NEW watch case vulcanizer with a number of improvements has just been announced by The Akron Rubber Mold & Machine Co., of Akron, Ohio. Many advantages are claimed for this vulcanizer among which are ease of operation, lower maintenance costs, positive locking, interchangebility of molds, speed of production and uniformity of cure.

The illustrations on this page show the vulcanizer with the mold sections open and closed and also indicate the general placement of the locking cylinders and piping as well as the deflector which forces open the mold halves.

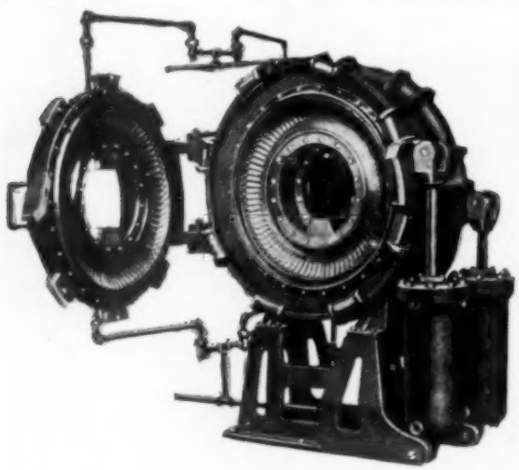
The cylinders which actuate the locking rings are placed in a vertical position thus not only making for ease of operation of the units, but this location assures full closing pressure to prevent formation of a rind on the tire tread. The cylinders are pivoted on the bottom and automatically compensate for the arc of travel of the locking rings, permitting a direct connection between the piston rods and locking rings. This allows the entire pressure to be exerted directly against the locking rings without any loss of pressure.

Another feature of interest is the deflector which forces the mold halves apart and performs the stripping operation.



View Showing Vulcanizer Closed

with ample room provided to permit the carrying off of condensed steam by gravity, thus assuring uniform cure. By making all working parts either bushed or replaceable, the life of the unit is said to be greatly increased.



"Minute Man" Watch Case Vulcanizer, Showing Mold Cavities, Ring Locking Vertical Cylinders, Deflector for Opening Mold Halves and Piping.

The manufacturer states an operator can make a complete tire change in less than a minute but the usual time allowed is two minutes. Allowing a sixty minute cure with a battery of 15 units, one man can produce a tire every two minutes. With this vulcanizer interchangeability is featured for only four sizes of molds are required to accommodate all size tires from 27 x 4.40 to 34 x 7.30 including the 3½ in. clincher. Two are devoted to the 18 and 19 in. rims and two to the 20 and 21 in. rims.

Condensation is assured by chambers placed in the lowest point of the housings

Triangle to Make Tubes

M. C. Wyatt, general manager of the Triangle Tire & Rubber Co., Canton, Ohio, has announced that the company will begin the manufacture of inner tubes soon after Jan. 1. Since its inception the company has manufactured only tires.

To Buy Everlive Equipment

Henry Young, Jr., who was recently appointed custodian receiver for the Everlive Rubber Corporation, 28 Cherry St., Newark, N. J., manufacturers of artificial rubber, was recently authorized by Vice-Chancellor Church to accept the offer of the United Rubber Machinery Exchange, 311 Mt. Pleasant Ave., Newark, for the company's equipment. Creditors did not oppose confirmation of the proposed sale, which involves a consideration of $1,500.

The Everlive corporation was declared insolvent in a petition filed by the General Machinery Company, a creditor, and Vice-Chancellor Church appointed Mr. Young receiver late in October.

GASOLINE CONSUMPTION INCREASED IN OCTOBER

American motorists used their cars more in October than they did during the previous month, according to statistics just released by the Bureau of Mines which show that consumption of gasoline for the month was 986,496,000 gallons, an increase of 43,638,000 gallons over September consumption of 942,858,000.

Stocks of gasoline on hand Oct. 31 amounted to 33,706,000 barrels, or 1,415,652,000 gallons, an increase during the month of 14,700,000 gallons. This was the first time since March that gasoline stocks showed an increase. At the current rate of demand these stocks represent 40 days' supply, as compared with 38 days' supply on hand in September and 50 days' supply on hand Oct. 31, 1925.

To Help Rubber Committee

It was recently announced by the American Society for Testing Materials that F. G. Breyer, chairman of Committee D-11 on Rubber Products, and C. L. Warwick, secretary-treasurer of the society, had conferred with officers of the Society of Automotive Engineers regarding cooperation by the latter society with members of the committee. Specially qualified experts from the automotive industry are being invited to become affiliated with the committee.

Grubb Leaves Star

D. A. Grubb has just resigned as vice-president and general manager of the Star Rubber Company, Akron. Mr. Grubb is well-known in the rubber industry, having been associated with the India Tire & Rubber Co. for a number of years as general manager. He has not announced his future plans but it is understood he is seeking a plant in the Akron district in which to start the manufacture of tires.

Stardant in New Plant

The Stardant Novelty Company, which recently changed its name to the Stardant Rubber Company, recently moved to a new factory on Springfield Road, Kenmore, Ohio. The company was originally located on Kenmore Blvd., opposite the N. O. P. & L. car barns. Fire demolished the plant. Small rubber articles such as toys, molded goods, aprons and household goods are manufactured.

DUTCH RUBBER UNION TO BUILD FACTORIES

The Nederlandsche Rubber Unie (Dutch Rubber Union), which was organized in Holland some months ago with a capital of over 7,060,000 florins, is proceeding with its plans to erect factories for the treatment of native rubber in the Dutch East Indies. Each factory is to have a capacity of 3,600 tons of dry rubber, operating on a day shift only, and 7,500 tons when working both day and night.

Working costs are estimated at three cents a pound. Construction and machinery costs are estimated to be from 550,000 to 700,000 florins ($222,000 to $280,000) for each factory. Factories are to be erected in the districts of Palembang and Djambi, Sumatra, and in South and East Borneo. The first factory at Palembang is expected to begin operations early in 1927.

Factories for treating native rubber may be established only with the consent of the Dutch authorities who are taking care that too many are not built. It has been reported that the Firestone Tire and Rubber Company has received a permit to open one factory, being the only American company to receive such permission. At the present time the native rubber is shipped to Singapore where it is cleaned before being re-exported.

John H. Meyer

John H. Meyer, president of the Springdale Finishing Company, Canton, Mass., died Nov. 30 from bronchial pneumonia at his home, 540 Pleasant St., Canton.

The Springdale Finishing Company, one of the largest dyeing and finishing plants in New England doing such work as khakis, drills for autotopping, prints for raincoats and proofing, enameling ducks and army ducks for rubber tennis shoes, has been under the personal direction of its president, Mr. Meyer, for many years.

He was born in Bavaria, Feb. 7, 1857. At the age of 14 he moved to England, and completed his education there, after which he learned the textile business in the cotton and worsted mills of Yorkshire. He became a manufacturer in England, and in 1895 he moved to America with his family and entered business in this country.

Miller Appoints Agency

The Miller Rubber Company, Akron, has placed its advertising account with the Chicago office of Lord & Thomas & Logan. Magazines and newspapers will be used to advertise tires and sundries.

LARGE TILING ORDERS FOR STEDMAN PRODUCTS

The Stedman Products Company, Braintree, Mass., manufacturers of rubberized flooring are running to capacity on orders which book the plant several months ahead. Two installations of the company's tiling are now underway at the Hotel Statler, Boston, and the Mt. Sinai Hospital, Cleveland, Ohio.

The company's reclaiming division is also busy manufacturing tire and tube reclaims for the trade. George McCrea, formerly superintendent of the reclaiming division of Goodyear Tire and Rubber Company and later with the Appleton Mfg. Co., Franklin, Mass. is handling the marketing of the reclaimed rubber and H. V. Turner is in charge of tiling sales.

Your carbon black requirements are assured by our foresight in developing new gas fields, based on an unequalled experience of over forty years.

CARBON BLACK
GODFREY L. CABOT, INC.
940 Old South Building, Boston.

Get Business by Mail

60 pages of vital business facts and figures. Who, where and how many 8,000 lines of business covered. Compiled by the Largest Directory Publishers in the world, thru information obtained by actual door-to-door canvass. your prospects are.

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R. L. POLK & CO., Detroit, Mich.
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Branches in principal cities of U. S.

CLASSIFIED ADVERTISING

10 cents a word, minimum charge $2.00, payable in advance.
Address replies to Box Numbers, care THE RUBBER AGE, 225 Fourth Ave., New York.

SITUATIONS WANTED

Druggists' sundries superintendant-chemist available. College graduate. Familiar with modern compounding and production methods. Ten years experience. Now employed. Box 444, The Rubber Age.

Rubber buyer (at present in London) with intimate knowledge and experience of Eastern rubber markets, also London. Is open to undertake exclusive rubber buying proposition, either in the East or in London, for first class house. Apply in first instance to Box 445, THE RUBBER AGE.

HELP WANTED

Wanted: Superintendent for rubber factory specializing in coated fabrics of all kinds. Must be absolutely up to date in compounding and factory methods. Give full information regarding experience. Box 447, The Rubber Age.

MISCELLANEOUS

MANUFACTURER'S AGENT

Chemical company wishes to act as manufacturer's agent in selling materials to rubber and tire companies. It is well established and doing large business at present time. Box 446, THE RUBBER AGE.

WANTED

A man qualified to direct the building and superintendence of a small factory for the manufacture of rubber soled canvas shoes in country adjacent to the United States.

Address reply, stating salary expected and references to

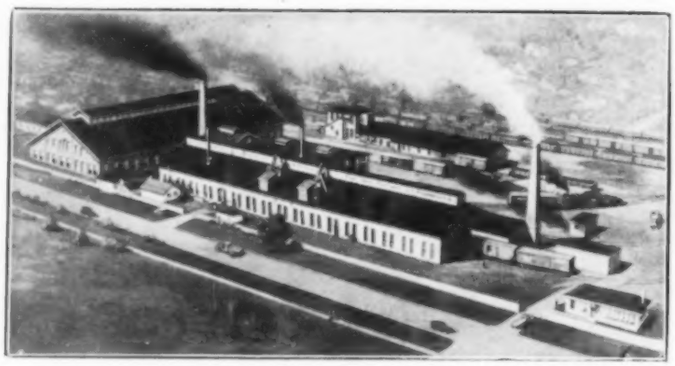
BOX 448
THE RUBBER AGE
225 Fourth Ave., N. Y.

CATALPO!

INTERNATIONAL PULP CO., *41 Park Row, New York, N. Y.*
SOLE PRODUCERS OF PURE **ASBESTINE** SPECIALLY PREPARED FOR USE IN RUBBER
Covered and Protected by Letters Patent Registered at U. S. Patent Office, Washington, D. C.
LIBERAL WORKING SAMPLE FURNISHED FREE

WITCO

The Latest All-American Factory Producing for the Rubber Trade—



THE HOME OF THE CAPITOL BRAND RED AND GREEN OXIDES MADE BY THE GEORGE B. SMITH CHEMICAL WORKS AT SPRINGFIELD, ILL.

Wishnick-Tumpeer, Inc.

RED OXIDES
INDIAN RED
VENETIAN RED

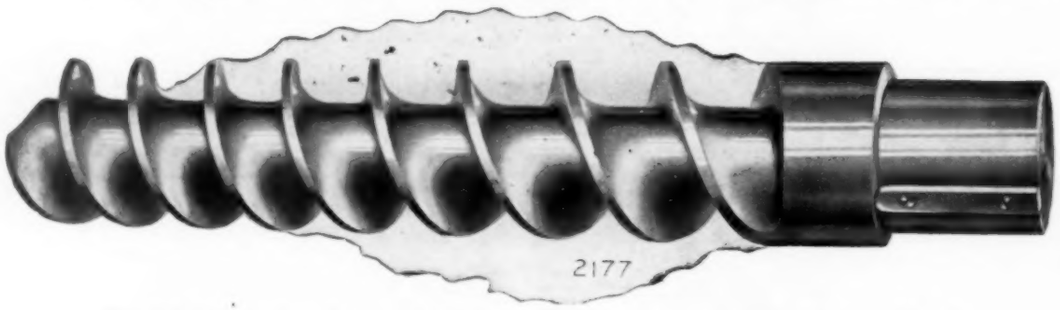
CHROMIUM GREEN

—all specially processed for the Rubber Trade.

STOCKED and DISTRIBUTED from

NEW YORK 253 Front St.
CHICAGO 365 E. Illinois St.
CLEVELAND Davenport & E. 14th St.
BOSTON 185 Devonshire St.

The Royle Tubing Machine Stock Screw



THOSE deeply milled flutes mean large production. Wide at the throat—progressively narrower toward the die. The effect of this decreasing pitch is a rapid intake of stock, increasing compactness, and rapid ejection at high die pressure.

Just one of the reasons why a Royle Tubing Machine makes more product, with no more labor cost.

"Profits in business depend largely upon efficient machinery."

JOHN ROYLE & SONS, Paterson, N. J.

EDITORIAL COMMENT

Ceylon Stands In

NO ONE will be greatly surprised that Ceylon is not to abandon rubber restriction. During the few days that the Legislative Council of that British territory was debating a motion that Ceylon "stand out" from Great Britain's restriction scheme there were few who were either expectant or uneasy unless it was a group of pessimistic Malayan planters who felt that it would be just like Ceylon to shirk its part of the restriction burden. Such feeling has arisen at times in the past and has been noted in Singapore papers, At any rate, the motion was rejected on the "recommendation" of the British Colonial Secretary on December 17. Restriction was first imposed after similar recommendations, the meaning of which has become well-known, even in this country.

At the present moment Ceylon has less reason to be dissatisfied with the rubber restriction scheme than has any part of Malaya. The colony has an assessed standard production considerably more than ample to cover its maximum output. This was demonstrated in the quarter ending last October 31 when Malaya came much nearer using up her export coupons although both fell short of 100 per cent shipments. It is now understood that an increase in Ceylon's assessments is contemplated if not actually accomplished.

As the Colonial Secretary indicated, for Ceylon to abandon rubber restriction would have a most serious effect on the policy of other British rubber producing areas. Malaya and Ceylon have so far carried the ball while the Dutch reaped the principal reward and it is doubtful if Malaya would continue contentedly to bear the restriction burden for all the rest of the East. But Ceylon "stands in" as "recommended" and now followers of restriction have only February 1 to look forward to.

The New Year

AN OHIO prophet to whose forecasts business men generally pay rather close attention is Colonel Leonard P. Ayres of the Cleveland Trust Company. Since he resides and works near enough to the principal center of rubber manufacture to watch that industry with convenience and since he also devotes close attention to the automobile industry, rubber manufacturers can usually expect something of direct interest in Col. Ayres' predictions.

In his latest bulletin this forecaster holds out hopes for good business in 1927. Both favorable and unfavorable factors are recognized, but though there are no grounds for grave concern, he feels that business activity in the new year may not completely equal that of the year just closing. A decline of five or six per cent in the production of automobiles from the record 1926 peak is possible in his opinion. This view will be seen not to differ from the belief of many automotive executives although they may not express it so candidly.

Colonel Ayres feels that while the slight slackening in business activity anticipated for 1927 will not be great enough to affect general commercial prosperity very much, industrial profits may narrow somewhat rather than broaden from the records established this year. If a special prediction had been made for the rubber industry, which the Cleveland forecaster did not undertake, it would likely have recognized the probability of more satisfactory earnings for rubber companies arising from a more stable price for the raw materials which they must buy in advance. The market for their products will, of course, show the usual expansion.

The Christmas Seal

AN UNDENIABLY successful venture in public service is the Christmas seal sale which is held annually throughout the country and which is again being concluded. Like all big business enterprises, its growth is due to the commonly prescribed rules for success; namely, vision, hard work, thrift, and giving the public what it wants.

Within twenty years this undertaking, which is the principal support of the national, state and local tuberculosis associations of the United States, has developed from a $3,000 business to one whose gross receipts in 1925 were approximately $4,900,000.

This year France tried the Christmas seal sale also. Unfortunately legal complications affecting the circulation of such stamps hindered the complete success of the movement. If we look for the occasions, it may be seen that government in this country does frequently get out of the way of movements or businesses that have a reasonable goal and know how they propose to get there.

Price Stability

IT APPEARED for a time that the announcement that American rubber and automobile manufacturers had combined to stabilize the price of crude rubber would mean a recurrence of the bad feeling over Britain's rubber control which was so noticeable early this year during the Congressional investigation and Secretary Hoover's campaign. In identical manner the cartoonists and the sensational reporters started again to arouse the public. Fortunately their efforts have failed, chiefly because those directly interested in the new organization declared there was nothing more to say and the British public and press offered no unstudied comment for redistribution here.

It has certainly been said often enough that most Americans who have studied the rubber question find the greatest fault of restriction in the method in which it is applied. There is no evidence that the new organization objects to anything except a wildly fluctuating price. The rubber growers have already proclaimed that they lose rather than gain from unstable prices and hence it is not surprising that they are complacently giving the new movement its chance to benefit both sides.

Executive Control in Rubber Manufacture

The Company That Wants to Move Up in the Profit Making Class Should See That its Executive Gets the Proper Kind of Reports

By Clifford S. Redfield

Consulting Engineer.

PRACTICALLY EVERY business must borrow money from the bank at some time in order to finance its operations. In presenting the statements and balance sheets to the bank when arranging for a loan the executive of the corporation will many times be told that his inventories are too high, that his collection department is not functioning properly, that his working capital ratio is not right, and so on.

The executive no doubt knows all this before he presents his statements to the bank, but such statements are records of past performances and cannot be rectified. Under these conditions the executive is put in the position of going to the banker and asking him to do a favor by granting a loan. As a matter of fact, he should go to the bank and buy his money just as he buys any other raw material. But in order to do this he must have a good statement and balance sheet just as he demands a good statement of a customer before he will grant credit. The main purpose of this article is to establish a system that will keep all these factors under control at all times and stop any leaks before they become so large that they affect the operating statements adversely.

At the present time we find manufacturing on the basis of larger volume at a small profit, which means that this volume must be maintained or a proportional reduction made. Without the proper operating analyses this proportional reduction cannot be made. In merchandising we find smaller stocks carried with quicker turn-overs. This means constant watching of inventories and the placing of small orders frequently. The need for operating analyses is apparent when we find that 50 per cent of the corporations of this country are making no money, that 70 per cent are operating with practically no profit, and that not over 5 per cent of the corporations know what it actually costs them to produce goods.

With these facts in mind it can be seen that the executive responsible for the profitable operation of a corporation must have accurate data available at all times. This article will indicate the figures he should have in order to make decisions and to be able to analyse the situations as they exist.

The executive will need to have both daily and monthly reports placed before him. There should be two daily reports, one covering orders and shipments and the other the financial status of the corporation. The latter will show current assets, including bank balances, accounts receivable and bills receivable, and current liabilities, including bills and accounts payable. The monthly reports should cover orders and shipments, employment and payrolls, inventories, sales, factory operations and an operating summary.

Daily Orders and Shipments

The report on orders and shipments to be reviewed by the executive each day should come to him as shown by Form 1.

ORDERS and SHIPMENTS

Date _____

	Orders Beginning Today	Orders Received Today	Total	Shipped Today	Balance	Month to Date	Last Month
A	$	$	$	$	$	$	$
B							
C							
D							
E							
Total							

Form No. 1

It is important that the executive should know the cash position of his company daily together with the accounts and bills receivable and accounts and bills payable. The receivables and payables should be divided into 30, 60 and 90 day periods. This gives the executive an opportunity to check up on collections and disbursements, especially in relation to cash discounts being taken. The data may be placed before him in the manner indicated by Form 2.

FINANCIAL REPORT

Date _____

	Bank A	Bank B	Bank C	Total
Previous Balance	$	$	$	$
Deposits				
Total				
Withdrawn				
Balance Today				

	Under 30 days	30-60 days	60-90 days	Total
Accounts Receivable	$	$	$	$
Bills Receivable				
Total				
Accounts Payable				
Bills Payable				
Total				
Difference				

Form No. 2

The data necessary for the order and shipment report should be placed in the hands of the executive's assistant by the order department every morning. The data for the financial report should come into his hands from the treasury and accounting departments. This assistant will prepare these reports and look up all information relative to any extraordinary features so that his chief will have full information without any delay.

Orders and Shipments

A monthly summary and comparison report of orders received and shipments made together with the unfilled orders is indispensible. It shows the executive where and when to bring pressure and where commendation should be made. Such a report may be gotten up as shown by Form 3.

ORDERS and SHIPMENTS

Month of _____

	Orders Received				Shipments				Unfilled Orders	
	This Month	Last Month	Year to Date	Last Year	This Month	Last Month	Year to Date	Last Year	Year to Date	Last Year
A	$	$	$	$	$	$	$	$	$	$
B										
C										
D										
E										
Total										

Form No. 3

The great majority of executives do not watch employment carefully enough. They watch payrolls very carefully but employment turnover does not, as a rule, receive sufficient consideration. When a man leaves his position and another is hired to take his place the corporation is the loser by at least fifty dollars. This is a very conservative figure. Considering this, the importance of this item can be grasped, and should receive full consideration. A high labor turnover may mean the difference between a profit or a loss. Such a report may be prepared as shown by Form 4 on the next page.

EMPLOYMENT and PAYROLLS

Month of _____

	Number Employed First of Month	Added During Month	Discharged or Left During Month	Number Employed End of Month	Change	Turnover	Payroll This Month	Payroll Last Month	Change
Administrative									
Office									
Sales, General									
Boston									
New York									
Chicago									
Factory, Gen.									
Factory, Ex.									
Dept. A									
Dept. B									
Dept. C									
Total									

Form No. 4

The inventory of raw materials, goods in process, and finished goods is a most important factor since money is many times tied up in an excessive stock of raw materials or finished goods which could be used to much better advantage in the business if it were liquid. If these items were watched more carefully the necessity for calling for frequent banking accommodations could be alleviated or at least the bank loans would be considerably less with correspondingly less interest charges which would affect the profit and loss directly.

The inventory relations of raw materials, goods in process, finished goods and stocks in branches should be placed before the executive monthly as shown in Form 5.

INVENTORIES

Month of _____

	On Hand First of Month	Purchased during Month	Total	Issued or Shipped	On Hand End of Month
A	$	$	$		
B					
C					
D					
Phila. Br.					
Chi. Br.					
Boston Br.					
Total					

Form No. 5

It is very essential that the executive have a complete, compact and accurate record of the sales activities each month. This is most important in view of the fact that today 90 per cent of the problems in a business are sales problems. This has been brought about largely by the introduction of mass production with a corresponding large volume of goods to be marketed quickly, at a relatively small profit, which will allow of no delays in getting the goods to the consumer since the turnover is the all important item.

In view of the fact that the sales department is the so-called "bread and butter" of a corporation, the executive should show his appreciation for any piece of work well done. If the records show a "falling down" here and there, such instances should be firmly dealt with after a complete investigation.

The monthly sales record should appear as indicated in Form 6.

SALES RECORD

Month of _____

	Monthly Quota	Actual	Difference	Year to Date	Last Year	Cost	Selling Cost per $ Sales			
							This Month	Last Month	Year to Date	Last Year
Home Office										
Philadelphia										
Chicago										
New York										
Boston										
Total										

Form No. 6

It is important that a summary of the factory operations be placed before the executive as clearly and concisely as possible. He will particularly want to know the man hour production and man hour cost, the cost per dollar of sales for applied labor and total payroll, and the percentage of scrap and "seconds" produced. The inventory relationships are of considerable interest. Since considerable money is lost through the coal pile, boiler evaporation is an important item. Considerable money is lost through trucking operations and a check is made of this through the cost per ton mile each month.

These factory reports should be worked up in great detail but as the nature of this detail depends on the line of business, and it is impossible to cover the various lines in this article, only the general items are covered. To illustrate, in the case of the rubber business, the factory summary should include such items as pounds of stock mixed, cost per pound for mixing, yards of fabric calendered, cost per yard to calender fabric, yards or pounds put through stock calender, and the cost per yard or pound for stock calender. Furthermore, the rubber business is subdivided into mechanicals, boots and shoes, tires and tubes, drug sundries, clothing and specialities so that no general items will cover all the details of each line. The detail will depend on the line of business. Form 7 is suggestive of what may be needed.

REPORT OF FACTORY OPERATIONS

Month of _____

	This Month	Last Month	Year to Date	Last Year
Production, Pounds				
Man Hours Worked				
Man Hour Production				
Payroll				
Applied Labor				
Man Hour Cost				
Sales				
Cost Dollar Sales, Appl. Labor				
Cost $ Sales, Total Payroll				
Cost per lb., Applied Labor				
Cost per lb., Total Payroll				
Shipments, Pounds				
Shipments, Dollars				
Seconds Produced				
Scrap, pounds				
Scrap, dollars				
Scrap, per cent				
Orders shipped				
Average Pound Price				
Boiler Evaporation				
Trucks, Cost per Ton Mile				
$ Sales per $ Inv. Raw Material				
$ Sales per $ Goods in Process				
$ Sales per $ Finished Goods				
$ Sales per $ Total Inventory				

Form No. 7

A summary report of the details of all operations should be made once a month. The various items should all be previously budgeted and then the resulting operations compared. In order to have figures for comparison with previous operations the percentage is calculated on gross sales. This eliminates returns and allowances, which is a variable item, and makes the figures comparable.

A summary operating report may be prepared as shown in Form 8 on the next page.

There are a number of items in the suggested Form 8 that are not required in some lines of business, while other lines of business will require additional items. The particular items shown were selected to fit the rubber business.

The question naturally arises as to how to establish the figures for budgeting on the various items in the various reports. The standard figures may be arrived at by taking the period over which the best showing was made and working up the figures for this period. With these figures as a basis, an effort should be made to better them. These figures should be prepared by a man who is assistant to the chief executive and responsible only to him. He should not only have the authority to get the necessary figures but should be in a position to make the necessary investigations relative to the figures.

The man making the reports for the executive must know the "whys and wherefores" of all details so that when he goes over the reports with his chief he can explain all the figures without delay.

For example: In the report for the month of June in plant

No. 3 located at Philadelphia the boiler evaporation shows only 5.6 pounds of water evaporated per pound of coal burned. The assistant to the executive must find the reason for so low a figure. If necessary he should go to Philadelphia and investigate. Then when he is going over the report with the chief executive and his figure of 5.6 is reached, he can explain it without any question or delay.

Perhaps he found that some cheap slack coal was purchased with the idea of saving money and the heating units of this coal were low so that nothing would be saved by its use. The assistant would so report to the chief executive who would then be in a position to handle the situation with correct and complete information. He might decide that no more slack coal was to be purchased and give instructions to that effect.

Another example: The cost of operating the Boston branch increased eleven cents per dollar of sales last month. Why? The executive's assistant should be prepared with the reason when the report is gone over, even to the extent of going to Boston and investigating.

Still another example: The labor turnover in Dept. 8 in plant No. 5 located in Chicago has been running around 60%. Why? The executive's assistant should have investigated and be ready with the answer when the report is before the executive.

And as a final example: The record on accounts receivable shows that an increasing proportion is running over 60 days. Is this due to general business conditions or is the collection department getting a little lax? The answer should be ready with the report.

It is impossible to go into details in the space available for a short article but the facts given will form a fundamental basis upon which to work and is subject to various modifications and additions to cover various lines of endeavor.

SUMMARY OPERATING REPORT

Month of _____

Item	Budget	Actual	Difference	Per Cent of Gross Sales: This Month	Last Month	Year to Date	Last Year
Sales, Gross							
Returns & Allowances							
Sales, Net							
Material							
Applied Labor							
Factory Expense							
Coal							
Depreciation							
Experimental							
Gas and Oil							
General Factory Exp.							
General Labor							
Insurance Premiums							
Overhead Labor							
Purchased Power							
Repairing Autos.							
Repairing Buildings							
Repairing Equipment							
Stationery & Printing							
Selling Expense							
Advertising							
Packing & Shipping							
Commissions							
Branch Office Expense							
Boston							
Chicago							
New York							
Philadelphia							
St. Louis							
Freight & Cartage Out							
Meat Branch Offices							
Salesmen Salaries							
Storage							
Travelling Sales.							
Administration Expense							
Executive Salaries							
Office Salaries							
Printing & Stationery							
Petty Office Expense							
Travelling Officers							
General Expense							
Dues & Subscriptions							
Postage & Revenue Stamps							
Taxes (Prop.)							
Telephone & Telegraph							
Legal Fees							
Interest Paid							
Discount on Sales							
Discount on Purchases							

Form No. 8

Rubber Tubing as a Monolithic Conduit Mold

Rubber Succeeds Iron in Forming Underground Ducts

By Arthur Williams
Vice-President, New York Edison Co.

FROM THE earliest days of Edison's first electric lighting system in lower Manhattan, underground electric conductors in New York City have been incased in iron pipes. Later, concrete ducts came into use for conduits, but iron pipe continued to be used as a mold for the pouring of concrete conduits and of course the iron pipe remained in the conduit, having become encased in the concrete. With the tremendously increased demand for electric service it became necessary to lay thousands of miles of additional cables under the streets of New York. At the same time more and more water pipes, gas pipes, telephone and telegraph lines and other mains were being put into the streets, until today it is impossible to dig a trench for any great distance on any street or avenue in New York without encountering one obstruction after another. On Manhattan Island, particularly, the problem of carrying the higher voltage electric cables in adequately protected conduits over, under, and around the numerous obstructions has become acute. Electrical engineers, construction men and inventive geniuses throughout the country have for years sought some economical method of pouring concrete or monolithic ducts for electrical cable without the use of iron pipe and still in such a way as to make possible the pulling over or under obstructions and around corners.

T. E. Murray, after many experiments, turned to a section of pure para rubber as a mold to take the place of iron pipe. In his office, on the 14th floor of the Consolidated Gas Building at Fifteenth St. and Irving Pl., there still hangs the 18-inch piece of rubber which, after being incased in concrete in his laboratory years ago, was pulled out of the concrete by Mr. Murray. This little experiment led to the development of a form of pure para rubber tubing which in recent years has come into general use as a mold for monolithic conduit, underground and building construction.

Frequently you will notice men in street trenches pulling from the earth long spaghetti-like tubes of rubber, perhaps a hundred feet in length. If you will watch closely you will see these rubber tubes slowly contract in length and expand in diameter until they have assumed the exact size and shape in which they had been used as molds for the concrete. The same rubber tubes are used over and over again. They are placed in even strips in the trench, concrete is poured over them and allowed to harden, and then three men, taking hold of each rubber tube, pull it out of the concrete and leave in its place a smooth tunnel, of even diameter, following the course of the rubber over and under obstructions, around corners, up and down steep hills. And later there will be pulled through some of these tunnels or conduits a three-inch cable which will carry electric energy at 132,000 volts, or twice the pressure of the most powerful underground electrical cable now used commercially anywhere in the world.

Watching the workmen laying these rubber tubes, pouring the concrete, and then pulling the tubes from the concrete, one is tempted to say, "How simple!" But one does not know then of the years of experimentation with every conceivable material in the search for a mold more flexible than iron, strong enough to sustain the weight of concrete and yet one which would not adhere to the concrete. One does not know, ordinarily, that, even after the successful experiment with a solid rod of rubber, it took Mr. Murray two years to develop the proper formula for a hollow rubber tubing which meets all the exacting requirements of such a system.

To date, more than 13,000,000 feet of electrical cable has been protected by Mr. Murray's system of monolithic conduits; an average of 100,000 feet of conduit is built in underground New York each month with this system. The cables now reach almost 12,000 miles in length.

Crude Rubber Storage in London

This Analysis Shows How the Stocks of Crude Rubber In London Can be Known So Definitely

By A. C. Blackall

AS IS well-known, London is the world's principal rubber market. The average importations run about 1,000 tons per week, and of this large quantity the Port of London Authority handles over 85 per cent of the total rubber entering the United Kingdom. It is, therefore, possible at all times for interested parties to be well posted, within a very narrow margin, as to what quantity of the commodity is available, since the Port of London Authority issues a report which is of utmost importance to manufacturers, dealers, speculators, and the trade in general. The report can be relied upon for absolute authenticity and accuracy.

This report shows the operations of the week, deliveries, landings, increases or decreases of the stocks during the week, and also compares the quantity in stock with that of the corresponding week of the previous year. For example, returns for two recent consecutive weeks were as follows, all figures being in tons:

Week Ending	Arrivals	Deliveries	Increase	Total Stock
Nov. 27	2,527	3,221	694*	43,859
Dec. 4	1,802	1,266	536	44,395

*Decrease

These figures are published in the Mincing Lane Share Exchange Daily Official List, by the Rubber Trade Association in London, and are also immediately cabled to the United States where they are given wide publicity, particularly by the Rubber Exchange of New York in its daily market report.

Functions of Port Authority

As the Port of London Authority is such a power in the trade for statistical purposes, it is interesting to briefly analyze its functions. In July, 1908, the Authority took over the whole of the previously public and private owned docks in and in close proximity to London, with a water area of 641½ acres and a lineal quayage of 27½ miles, in addition to providing all modern requirements and the administration and erection of both free and bonded warehouses. The docks have been enlarged, river channels deepened and widened, new warehouses built at an expenditure of $70,000,000 and these are continually being added to.

The Port of London Authority is, however, something more than dock-owning authority. It possesses a wonderful range of warehouses, in which over 1,000,000 tons of goods can be stored at any one time, and performs many intricate and expert operations on behalf of merchants and importers. In addition to handling over 2¼ million tons of imported and normally 800,000 tons of exported goods every year, it has entrusted to its care in its warehouses a stock of over 500,000 tons of merchandise.

In these warehouses goods are stored pending their being taken up for home delivery or, for re-export. These warehousing facilities also offer great advantages to consignees who may not wish to receive into their own hands any or all of their consignments at the time they are unloaded.

When the crude rubber industry commenced to show signs of gigantic growth the Port of London Authority considerably enlarged the accommodations for this product, and specially adapted warehouses at London Docks were provided. These include three well-lighted floors each 350 feet in length, devoted to showing and "working" rubber with capacious vaults underneath for storage.

A small quantity of wild rubber is imported, but the greater part consists of plantation rubber obtained from cultivated trees. It is coagulated, rolled, dried and packed into cases for export to the London Market. On arrival at London Docks the rubber is removed from the cases, weighed, tared, sorted to qualities and grades; samples are drawn, sealed and forwarded to the selling brokers, who submit them to the Rubber Trade Association Standard Quality Committee before showing them in the Mincing Lane salerooms to prospective buyers. After the goods have been "worked" and inspected by the importers, they are repacked into the cases and stored in vaults to avoid deterioration in quality and loss in weight which results from exposure to the light.

It will be seen from the foregoing that a pretty close tally is kept upon all stocks. The importance of definite information of this kind on crude rubber trading is well-known and need not be stressed here.

London and Liverpool Compared

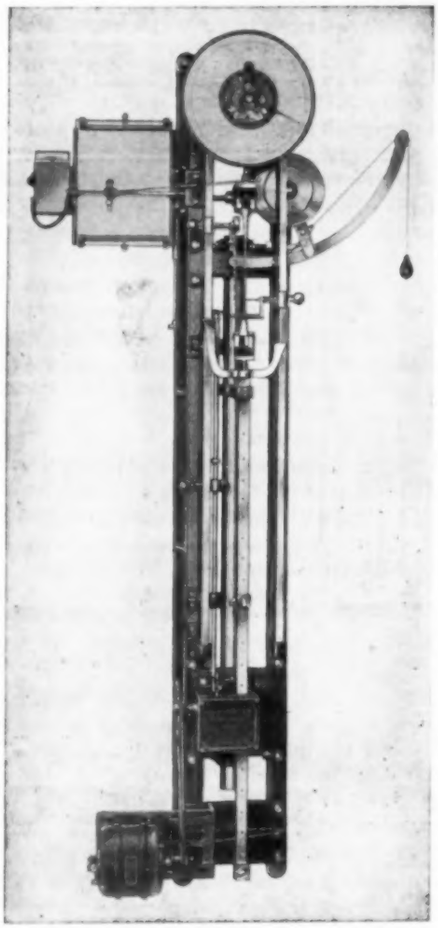
To a much less extent, on account of its smaller size, the trade is interested in the stock of rubber in Liverpool. The amount of rubber in six recognized warehouses at that port is also definitely and publicly known. During most of 1925 when crude rubber prices were high and London stocks were at their low point the stock of rubber in the six Liverpool warehouses was constantly less than 1,000 tons, but as the London stocks have risen the Liverpool stocks have slowly increased also. Nevertheless, they are now only in the neighborhood of 2,000 tons while, as shown above, the London stocks are near 45,000 tons. Liverpool is the second most important rubber port in the United Kingdom, in fact, there are no other ports that need be regarded in that connection.

While speaking of stocks of rubber outside the United States, it is interesting to note that the Singapore and Penang stocks have been increasing also. For many months the stocks in these primary centers stood at from 16,000 to 18,000 tons and that was regarded as a normal stock. Due perhaps to the effort of producers to hold more rubber in the East rather than rush it to London for trading and trans-shipment, the stocks in Singapore and Penang have increased until at the end of October they stood at 26,600 tons. This rubber is controlled by the producers whereas it is understood that an increasing percentage of the rubber stored in London is really in the hands of speculators who have not forsaken the rubber market after finding operations in it highly profitable last year.

Now that we have noted the size of the stock of rubber in London, it may be worth-while to note that a London broker has computed that the turnover in rubber in London in 1925 was 700,000 tons! Nothing could more

SCOTT TESTERS

A New Machine for Rubber Tensile Test



Moving Jaw Returns to Starting Position INSTANTANEOUSLY.

The cut shows a new form of recorder and machine arrangement for registering tests results in STRESS STRAIN DIAGRAM FORM in terms of TENSILE PER SQUARE INCH.

MANUFACTURED BY

HENRY L. SCOTT CO.

PROVIDENCE, R. I.

REPRESENTED IN AKRON, OHIO BY

PROF. H. E. SIMMONS,
MUNICIPAL UNIVERSITY

clearly show the extent of the speculation here last year.

With regard to the stocks of rubber in the hands of European manufacturers, it is of course impossible to know with any degree of accuracy. Certainly, the individual manufacturers guard such information closely. However, the total is small enough to be unimportant. In the United States through the Rubber Association of America a monthly figure of the crude rubber stocks of American manufacturers is published. Since there are no separate figures to show the tonnage of rubber held by the traders, the one figure has been used to indicate the amount of rubber ready for consumption. Recently the Association's stock figures have been criticized because discrepancies appeared from month to month when the reported consumption was subtracted from previous stocks plus arrivals. This is said to be due to rubber passing temporarily into new trading channels which are not co-operating with the Association in its statistical efforts.

Hard Rubber Waste Finds a Use in Making Pyroxylin Lacquers

A process for making pyroxylin lacquers with hard rubber waste has been invented by Samuel E. Shepard and John J. Schmitt, it was learned when U.S. Patent No. 1,583,703 was granted to these chemists and assigned to the Eastman Kodak Company, Rochester, N. Y. The patent describes a method for fluxing and dissolving hard rubber scrap and thereafter using it in a coating composition similiar to the nitrate cellulose or pyroxylin lacquers.

The hard rubber scrap is first treated in a five per cent solution of caustic soda at a temperature close to the boiling point. The first step, which is carried on for a period of from two to five hours, greatly facilitates fusing of the hard rubber, and serves also to remove part of the sulphur, of which hard rubber sometimes contains as much as 40 per cent. After the softened rubber is washed free from alkali, it is incorporated in a mixture in the following proportions: To 28 parts of rosin, or resins such as kauri, Pontianak, Zanzibar or Manila, 60 parts of the comminuted rubber and 12 parts of China wood oil are added. The composition is then raised to a temperature ranging from 200 deg. to 250 deg. Centigrade until a homogeneous mass results.

This mass readily and completely dissolves in benzol or coal tar naptha. The inventors recommend 120 parts of benzol to 180 parts of coal-tar naptha and 100 parts of fluxed rubber-resin composition. The pyroxylin part of the lacquer is obtained with a solution of low-viscosity pyroxylin in an inexpensive solvent such as ethyl acetate.

The lacquer, which will dry in 20 minutes at room temperature, ranges in color from brown to black.

Norway Used 50,000 Tires in 1926

Consumption of automobile and motorcycle tires in Norway during 1925 for replacement purposes was estimated at approximately 47,000, of which about 3,500 were motorcycle casings and about 1,200 solid tires. According to the Rubber Division, Department of Commerce, inner tube sales totaled about 50,000, not including new equipment. Sales for that year were unusually good, due to favorable weather conditions which permitted the use of cars all the year around, in contrast to former years when their use was confined to from six to eight months of the year in many districts.

As the normal yearly increase in tire demand is approximately 10 to 15 per cent, 1926 sales should total from 50,000 to 53,000 tires of all kinds. Weather conditions alone determine the use of cars and the consumption of tire mileage, and this fact makes it difficult to accurately forecast the sales volume for any year.

Readers and correspondents are requested to note that the new address of THE RUBBER AGE is 250 West 57th St., New York City.

The ROMANCE of RUBBER

BECAUSE IT is the belief of executives of the United States Rubber Company that both their company and the rubber industry in general will be better off in the future if the coming generation knows something of the history and adaptability of rubber, the company's printers have been busily engaged turning out a new edition of a bright colored booklet for the school children of the nation. Already tens of thousands of copies have been printed and distributed this season, but they have only begun to satisfy the demand for a booklet that has proven far more popular with the average child than any text-book he is required to study. The title of the booklet, which is known to many in the rubber industry, is "The Romance of Rubber."

The idea of having the next generation grow up with a better understanding of rubber and its usefulness occurred to United States Rubber Company executives in 1919. John Martin, well-known both as an author of children's books and as editor of "John Martin's Book", a child's magazine, was engaged to write the story. The result was twenty-four pages of text written in language easily understood by a child of twelve years. Numerous illustrations such as are reproduced on this page were used to make clear the production of crude rubber and its fabrication into rubber products. References to the activities and products of the company distributing the booklet are only incidental, the full emphasis being placed on rubber as a useful commodity.

The booklet was first used by the company in answering letters from school children and teachers who wanted someone "to tell them about rubber." From such a modest beginning demand for the booklet grew amazingly. Word spread among teachers that a simple, accurate and attractive story of rubber was available free of charge and in sufficient quantities to provide a copy for each child. With no encouragement other than the interest engendered by the booklet itself, demand for it increased until hundreds of thousands of copies were being distributed every year and the company found itself more concerned holding down the demand than increasing the distribution. Since 1919 several million copies of the booklet have been given to school children in all grades from the sixth up.

Distribution is handled through the Educational Department at the main office, 1790 Broadway, New York, which by request furnishes teachers with a quantity of the booklets sufficient for the whole class. After the booklet has been used as a text, a copy is presented to each pupil. The demand for "The Romance of Rubber" falls off during the summer months, and picks up again with renewed vigor each fall when the schools are reopened.

The booklet has been revised several times, and annual revision of the story has now come to be regarded as a policy. Although intended primarily for use in grammar schools as an aid to the study of geography, the booklet has also found a material demand from some of the high schools where it is used in the first or second year in connection with the study of elementary chemistry and botany.

Designed merely as an educational feature and not aimed primarily to stimulate sale of United States Rubber products, the booklet has nevertheless become a valuable sales promotional asset to the company. It is natural that children should have the name of the United States Rubber Company impressed on their memories through reading the booklet and as a result when buying overshoes or other rubber products should request those bearing the familiar U. S. trademark. Taken into their homes, it is picked up and read by parents and thus serves in performing a function for which it was never intended.

As a result of the distribution of the booklet, the United States Rubber Company has received requests from thousands of children for samples of crude rubber. These requests have grown so numerous in recent years that the distribution of samples was begun this season. Due to the high cost of rubber, the time consumed in cutting samples from large sheets, wrapping and mailing, the company charges twenty-five cents for a box containing samples of sprayed rubber, smoked sheet, Para and crepe. To each of the four samples a small printed sheet is attached identifying the grade and giving a brief description of it. The booklet is still supplied free of charge.

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WEEKLY MARKET REVIEW ON REQUEST

Charles T. Wilson Co., Inc.
82 Beaver Street New York

Importers of

CRUDE RUBBER

Members Rubber Exchange of New York, Inc.
Members Rubber Exchange Clearing House, Inc.

AKRON OFFICE: 507 Second National Bldg.
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Rubber Used at Fourteen Different Points on Nash Car

Although it is generally known in the rubber industry that the Nash Motors Company has been employing rubber on its car to insulate the motor from road shocks, there are perhaps few in the industry who realize that rubber is employed at thirteen other points in the chassis and body, in addition to its use for tires. The Nash Company was one of the first automobile manufacturers to become cognizant of the value of rubber as a shock insulator and has been using it since 1922 to protect the motor by means of cushions at four points of suspension. The company claims to use rubber at more places throughout the car than any other automobile manufacturer.

In the steering mechanism the steering column bracket is insulated with rubber to prevent vibration from being transmitted to the drivers' hands. The steering gear housing bracket is also insulated from the frame by what are called rubber "shims", for need of a better term. Rubber driving belts are employed not only to drive the fan, as on most cars, but also as a direct drive for the generator and water pump.

Rubber of special quality is used between the spring frame and platform. Engineers of the Nash Company have discovered that when a car passes over rough roads a variation in the angle of velocity is set up in the universal joint, resulting in vibration in the clutch. The company therefore developed a rubber device for use in the center of the clutch disc, and again rubber has eliminated vibration at that point.

Pads of rubber are placed on the accelerator pedal, and rubber collars are used under the floor boards on all pedals to serve various functions, such as keeping dust and dirt out of the front compartment, stifling noise, and excluding draughts. Rubber is used as a sheathing on the hand brake where it goes through the floor boards, for practically the same reasons it is employed on the brake and clutch pedals.

On the instrument board the Nash Company uses rubber "eyelets" or conduits on the tubes which pierce the board. In addition to employing rubber at the specific points already named, the company, of course, also follows the customary practice of using rubber for door bumpers, for radiator hose and for sheathing electrical wiring as an extra insulation.

The company claims that a great deal of the quietness and smoothness of operation of its cars is directly due to the manner in which engineers have adapted the shock absorbing, noise muffling qualities of rubber.

How Long Does a Rubber Tree Live?

The opinion has been expressed recently that a considerable proportion of the rubber trees in Malaya are now past their prime which has been regarded as from 12 to 15 years. The experience of the Malayan Department of Agriculture, however, does not bear this out, and is, in fact, directly contrary on estates where the rubber is grown under good environmental conditions. According to F. G. Spring, a well-known Malayan expert, observations on the longevity of Hevea brasiliensis are being recorded and yields are being noted of trees in the neighborhood of 30 years of age. The results, up to date, indicate that when decreasing yields per acre are found, the true cause lies not in the age of the trees, but in bad environmental conditions, brought about by a number of causes such as soil erosion, severity and quality of tapping, bad soil moisture conditions, impoverished soils, and disease.

It is known that under wild conditions in Brazil, trees of great size and age continue to give large yields, but various factors may have an influence on the longevity of the tree when grown under plantation conditions in the East. Undoubtedly disease is one of the chief factors to be reckoned with, and on areas which have to be continually thinned out on this account there may come a time when the number of trees to the acre is so small that replanting is necessary. The question of bark renewal in old trees is also of importance. Mr. Spring considers the plantation industry is not sufficiently old to enable one to say what the life of Hevea may be, or even to state, with any degree of accuracy, the period over which a field of rubber trees will continue to yield a supply of latex sufficient to make it a paying proposition.

The London Letter Delayed

On account of the congestion of Christmas mail from Europe, THE LONDON LETTER which usually occupies this page was not received in time for inclusion in the issue. The comments of The Gentleman from Mincing Lane on rubber news in London will appear again on January 10.

Ship Huge Conveyor Belt

What is said to be one of the largest rubber conveyor belts ever manufactured on the Pacific Coast has been shipped from the factory of the American Rubber Manufacturing Company at Oakland, Cal., to a lumber company operating on the north coast. The belt, which weighed more than 18,000 pounds, taxed the facilities of the Lawrence Terminal in Oakland and considerable difficulty was experienced in getting the huge roll aboard the McCormick Line freighter Wallingford. The heavy booms of the ship finally managed the task of lifting it from the pier to the deck by working in unison.

The belt was 1,300 feet long and contained 5,200 square feet of material, being half an inch thick and 48 inches wide. More than 3,000 yards of belting duck and 15,000 pounds of rubber were used in its fabrication. It is said that the crude rubber used in the belt was produced in the Philippines. The belting duck was woven in the plant of the California Cotton Mills, East Oakland, Cal.

The belt was one of four being manufactured by the American Rubber Manufacturing Company for the same lumber corporation. They will be used to convey unfinished timber from one part of the factory to another.

The Cost of Power in Tire Plants

Editor, THE RUBBER AGE

Some interesting figures have recently been brought to my attention regarding the cost of power in tire factories. An investigation was made by a large power and light company into the cost of power in the tire industry and they have come to the conclusion that it amounts to only 1.35 per cent of the total cost of production.

Although this may be correct, to the writer it appears to be very small and I am of the opinion that an error was very likely made. Probably the investigation was not as thorough as it should have been, which is sometimes the case in investigations. Whether or not the power included all kinds of power used is not stated, but since it is given as a "percentage of the total cost" one would naturally imagine that it includes all costs:—fuel, labor, water, interest, depreciation, and everything.

Perhaps there are owners or managers of tire plants who have more definite information on this subject than the above investigators. At any rate I am sure that many readers, including myself, would like to learn more about it.

Very truly yours,
W. F. Schaphorst.

The Pioneer Rubber Company, with factories at Attica and Williard, Ohio, has begun the manufacture of rubber gloves. A special glove department will henceforth be operated by the company, which up to a recent date devoted its production exclusively to tires, tubes and toy balloons.

Crude Rubber is Firm on Better Demand

Bearish Importation and Consumption Figures of the Rubber Association had Little Effect, Because they Were Expected

NEW YORK, Dec. 15, 1926— Announcement Dec. 3 of the formation by rubber and automobile manufacturers of a large pool to buy rubber as an aid in stabilizing prices caused a spectacular rise of from 90 to 160 points in the price of crude rubber, but the division of opinion on the effect of the pool resulted in a reaction later, and at the close prices were only from 30 to 40 points higher on April and May, but 100 to 120 points higher on spot and nearby deliveries. Business on the Exchange totaled 1,757½ tons, the best since May 27.

A news dispatch the next day to the effect that rubber growers in Ceylon had expressed dissatisfaction with restriction had a bad effect on the market, because, although Ceylon's withdrawal would not have a great effect on total exports from the East, it might result in similar petitions to the British Colonial Office from other British colonies.

It was said in the market that London had become reconciled to lower consumption in this country than had been anticipated. One of the leading British firms estimated 1926 United States consumption at from 365,000 to 370,000 tons, against an earlier estimate of 415,000 tons. Consumption in Germany also will be less than expected, with that country using only 25,000 tons. These losses were said to be partly offset by an estimated gain of nearly 40 per cent in Great Britain and smaller increases in France and Japan. World crude rubber production was estimated as 608,000 tons in 1926, and consumption as 546,000 tons.

Manufacturers, believed to have been encouraged by good orders from tire dealers under the spring dating plan, as well as by reports that a number of automobile manufacturers contemplated larger production in 1927, were in greater evidence with buying orders during the last two weeks than in some time.

The December position, selling at 37½ cents, moved up to within one-quarter of a cent of Jan./Feb./March as a result of a fairly good demand and the fact that the latter deliveries were no longer regarded as favorable owing to anticipated heavy shipments.

The most bearish set of figures ever issued in the memory of some traders had no influence on the market when the Rubber Association reported November consumption and shipments. Consumption during the month was 13,027 tons under imports, but as this had been expected, the figures had no untoward effect. Short covering kept quotations firm.

Business during the last few days was of a professional nature, with consumer interest on both the Exchange and in the street almost wholly lacking, due, it was thought, to pre-holiday curtailments and approaching inventories in many of the factories. Rubber continued to arrive in heavy volume, with imports for December to date 18,344 tons, an unsually high average for such a period and about 6,000 tons above that for similar periods.

Dec. 16 OPEN MARKET PRICES

Plantations—			
Ribbed Smoked Sheets			
Spot	—	@	.38
December	—	@	.38
Jan./Mar.	.38	@	.38½
April/June	.38	@	.38¼
First Latex, crepe spot	—	@	.38¼
Amber Crepe, No. 2, spot	—	@	.36¼
" " No. 3	—	@	.35¾
" " No. 4	—	@	.34½
Brown Crepe, Rolled	.30½	@	.31¼
" " Clean, thin	.34½	@	.35½
" " Specky	.31½	@	.32½
Liquid Latex, per gal.	1.50	@	1.75
Pontianac—			
Bangermassin	—	@	.17¼
Palembang	Nominal		
Prime Pressed	—	@	.27½
Sarawak	—	@	.17¼
Paras—			
Up-river Fine	.31	@	.32
" Medium	.27	@	.28
" Coarse	.22	@	.22½
Acre Bolivian, fine	.32	@	.33
Tapajos, fine	.28	@	.29
Cut Beni Bolivian, fine	.31½	@	.32½
Caucho Ball—			
Upper, shipment	.21	@	.22½
Centrals—			
Corinto, scrap	.21	@	.22
Esmeraldo, sausage	Nominal		
Guayule, w and d	.27	@	.31
Africans—			
Benguela, No. 2	Nominal		
Congo, upper, black	Nominal		
" " red	Nominal		
Balata—			
Block, Columbia	Nominal		
" Cuidad	.40	@	.42
Surinam, sheet	.74	@	.75
Gutta Percha—			
Siak	—	@	.30½
Red Macassar	3.00	@	—
Chicle—			
Mexican, Yucatan	.65	@	—

LONDON MARKET

Standard Ribbed Smoked Sheets—*Buyers*	
Spot	18⅜d
December	18⅜
Jan./March	18⅝
April/June	19½
July/Sept.	20

SINGAPORE MARKET

Standard Ribbed Smoked Sheets—*Sellers*	
Spot	18¼d
January	18½
April/June	18⅝

RECLAIMED RUBBER

NEW YORK, Dec. 16—Conditions in the reclaimed rubber market have changed little during the past two weeks. Shipments in general have slowed down a little, due, it is thought, to the approaching inventory period, but shipments to footwear and mechanical goods factories continue at a good rate. As yet, the new firmness of crude rubber prices has not been reflected in reclaims, as the quotations of most grades have not been changed.

High Tensile Black			
Super-Reclaim No. 1	lb.	.19	@ .20
" " No. 2	lb.	.16	@ .17
Shoe			
Unwashed	lb.	.08¾	@ .09
Washed	lb.	.11¾	@ .12¼
Tube			
No. 1 (Floating)	lb.	.18	@ .21
No. 2 (Compounded)	lb.	.15½	@ .16½
Tires			
Black, unwashed	lb.	.09	@ .09½
Black, washed	lb.	.11	@ .11¼
Black selected tires	lb.	.10½	@ .11
Dark Gray	lb.	.12	@ .13
Light Gray	lb.	.13	@ .14
White	lb.	.17	@ .17½
Truck, Heavy Gravity	lb.	.08¾	@ .09½
" Light Gravity	lb.	.09¾	@ .10¼
Miscellaneous			
Mechanical Blends	lb.	.08	@ .09
Red, High Grade	lb.	.17	@ .17½

SCRAP RUBBER

NEW YORK, Dec. 16, 1926—Scrap rubber continues dull, with little interest being manifested by reclaimers in making further commitments at this time, due very likely to inventory reasons. Recent snowstorms have slowed up the delivery to scrap dealers of accumulations from many sections, and as a result, some of the grades are scarce. Prices on other grades that are more plentiful are easier.

[*Prices to Consumer*]

Auto tire peelings	ton	35.00	@37.50
Standard White auto	ton	57.50	@60.00
Mixed auto	ton	26.00	@27.00
Bicycle tires	ton	25.00	@26.50
Clean solid truck tires	ton	38.00	@40.00
Boots and shoes		.02¼	@ .02⅜
Arctics, untrimmed		.01⅜	@ .01½
Arctics, trimmed		.01⅝	@ .01¾
Inner tubes, No. 1		.09¼	@ .09½
Inner tubes, No. 2, compounded		.08	@ .08¼
Air Brake Hose	ton	34.00	@36.00
Rubber hose	ton	21.00	@23.00

Closing Prices on Rubber Exchange of New York, Inc.

DEC. 3 TO 15

	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	SALES*
Dec. 3	37.70	38.10	38.30	38.40	38.70	39.10	39.40	39.50	39.90	40.30	41.30	41.50	703
4	37.30	37.40	37.50	37.80	38.00	28.50	38.90	39.30	39.70	40.00	40.60	41.00	127
6	36.80	37.30	37.30	37.50	37.90	38.30	38.50	38.90	39.40	39.90	40.50	40.90	145
7	37.00	37.20	37.30	37.60	37.90	38.20	38.60	39.10	39.60	39.90	40.40	40.80	237
8	36.90	37.70	37.80	37.90	38.20	38.50	38.80	39.10	39.70	40.10	40.50	40.90	409
9	37.10	37.30	37.30	37.60	37.90	38.20	38.50	38.90	39.50	40.00	40.40	40.80	132
10	37.10	37.40	37.70	37.80	38.10	38.60	38.90	39.10	39.60	40.10	40.50	40.90	220
11	37.50	37.50	37.80	38.00	38.30	38.60	38.90	39.20	39.70	40.20	40.40	40.90	38
13	37.90	38.10	38.30	38.60	38.80	39.00	39.40	39.80	40.20	40.50	40.80	41.20	184
14	37.60	37.80	38.10	38.50	38.70	38.90	39.20	39.50	39.90	40.30	40.60	41.00	178
15	37.20	37.40	37.80	38.10	38.30	38.70	39.00	39.30	39.70	40.00	40.20	40.70	243

(*) In lots of 2½ tons each; totals are for old and new contracts.
(Prices are for new contracts)

Rubber Chemistry and Chemicals

Some Recent European Articles and Patents

The Needle Shaped Molecule—Introducing Organic Dyes—Producing Goods Direct from Latex—Elimination of Grit.

THE CONSTITUTION of the rubber molecule and other subjects of a rather highly scientific nature still call forth much work on the part of investigators in the European rubber industry. In this field perhaps more than in any other line of chemical endeavour, there is more hearty subscription to the idea that a well founded theory is the most practical of all things.

Thus important work has recently been carried out on the theory of the needle shaped rubber molecule. It is shown that the formula of unworked rubber is changed and shorter molecules are formed when the rubber is masticated. The separation of diffusion rubber by dialysis from masticated rubber is explained by the presence of these molecules of various magnitude. The softening of rubber on warming is found to be due to the presence of resins, that is when the softening change is gradual, as absence of the resins results in a much sharper change. The reasons why overworked rubber requires a greater proportion of sulphur are also developed to be due to the presence of the needle shaped molecule. Finally the possibility of reclaiming rubber is held to be due to the formation of these molecules which afterwards polmerize. (*Gummi Zeitung*, 1926, volume 40, pages 2805-07.).

Considerable attention is also being paid to the theory that rubber is a fibrous substance, and that when the rubber is stretched and then frozen in water it resembles wool or viscose. Experiments have been made in which the rubber was frozen in the stretched condition and photographed, the photographs clearly showing its fibrous character. These experiments are described in *Kautschuk*, 1926, pages 151 to 156. Additional studies have also been made on this subject with particularly reference to the thermodynamics of elasticity and the fibrous theory. Articles on this phase of the subject have been running in *Kautschuk* since August of this year. The investigations cover all angles of this general subject and while of a high scientific nature, they have much in them which will eventually be of considerable practical value.

Introducing Organic Dyes Into the Mix

Various organic dyes are added direct to rubber mixtures and at times it has been found that they exert an accelerating action on its vulcanization, so that vulcanization is premature during mixing. To avoid this it has been found that the addition of diphenylguanidine will mask the accelerating properties of neutral azo dyestuffs. The best way in which to use the organic dye in the rubber mass is first to precipitate the color on a filler such as clay, and then to incorporate the colored clay with the other ingredients of the rubber mixture. One important property of the dyestuff is that it should be sufficiently soluble in rubber to be evenly and thoroughly distributed throughout the rubber mass, but it must not be too soluble for in that case color will be transferred from one rubber article to others which come into contact with it. Information on the effect of vulcanization in molds and in open steam on the color of the rubber containing various dyestuffs is also given in the article on this subject, published in Transactions of the Institution of the Rubber Industry, volume 2, pages 42 to 54.

Recent British patents, (see British Patents Nos. 253,896, 254,765 and 252,673) on the production of rubber merchandise direct from rubber latex are interesting. The rubber in this case is precipitated on porous molds or forms which are supported on the side that does not come in contact with the latex. Various mechanical means, such as reduction of pressure, heating, air circulation and the like are employed to aid the rapidity of the evaporation of water from the latex. It is also possible to employ water-absorbing substances, such as gypsum, cement and the like to aid in this process.

The control of temperature during the vulcanizing process is of considerable importance. Various methods have been suggested and used and one which is recommended in *Kautschuk*, 1926, pages 214 ff., is the electrical method. An electric resistance thermometer is used for this purpose, a coil of suitable pure metal being employed. Pure platinum melted into a quartz glass holder in the form of a spiral is best suited. The changes in the electrical conductivity of this spiral is then measured on a suitable scale which is graduated in degrees Centigrade. It is also possible to employ a recording device with this instrument so that a permanent record of the temperature is obtained.

Dusting Powders for Rubber Goods

Interesting and valuable details on the use of various dusting powders for rubber merchandise are contained in Ditmar's article published in *Gummi Zeitung*, 1926, pages 246 to 247. It appears that these colloidal powders exert an important action on the cold vulcanizates. There are five different effects in all. First of all these adsorbent materials act on the sulphur chloride which adheres to the surface of the vulcanizate; then they have the same adsorbent action on the softening agents, such as carbon disulphide and carbon tetrachloride which causes the rubber to swell so that the sulphur chloride can penetrate into its structure. Thirdly, these adsorbents adsorb all the decomposition products of sulphur chloride with water; fourthly, they have a softening action on the rubber making it more flexible. Finally, they prevent after-vulcanization. This is the most important action of all, and is also connected with the fact that the adsorbents prevent sulphur flowering of the rubber merchandise vulcanized in the hot.

French Patent No. 603,772 is interesting in that it advocates the distillation of waste rubber which contains from thirty to fifty per cent of mineral fillers by first mixing it with pitch or paraffin wax.

In using pigments and fillers for compounding rubber, it is always necessary to be sure that these materials do not contain particles of grit and other sharp crystalline substances which can cut the rubber and lead to its early destruction. A method for detecting particles of grit in pigments is given in the Journal of the Oil and Color Chemists Association, 1926, pages 219-225. The instrument used for this purpose is a modified elutriator, which permits the economical use of special media for the avoidance of incomplete dispersion. A solution containing half a per cent of sodium hydroxide and one tenth of a per cent of gule in distilled water is advantageous for most powders. It must however be mentioned that the usefulness of the elutriator is limited and the sieving apparatus of Gallie and Porritt has advantages which the elutriator does not possess.

SAYS COST RETARDS ARTIFICIAL RUBBER

Professor Roger Adams in a Forecast Made for the American Chemical Society Says Difficulty is to Find a Raw Material Cheap Enough to Make Use Feasible.

The most serious obstacle in the path of development of a practical synthetic rubber is the cost of the raw material and petroleum offers the possibility of furnishing this material. Such is the statement made by Professor Roger Adams of the University of Illinois in a forecast made for the American Chemical Society.

The fact that it takes two full-grown rubber trees two years to produce enough rubber for a Ford-size tire indicates the importance of developing a synthetic rubber which can compete with the natural commodity, Professor Adams said.

"With the British control of the raw material, and with the consumption of rubber in this country constituting a large proportion of the world's total output, the situation in this country is a perplexing one," he said. "The solution lies in the hands of the chemists, and a modest expenditure to them, in the hope of getting a cheap synthetic rubber, would very likely be more economical in the end than expending hundreds of millions of dollars necessary for developing new rubber plantations in Africa, the Philippines or elsewhere.

Materials Necessary are Known

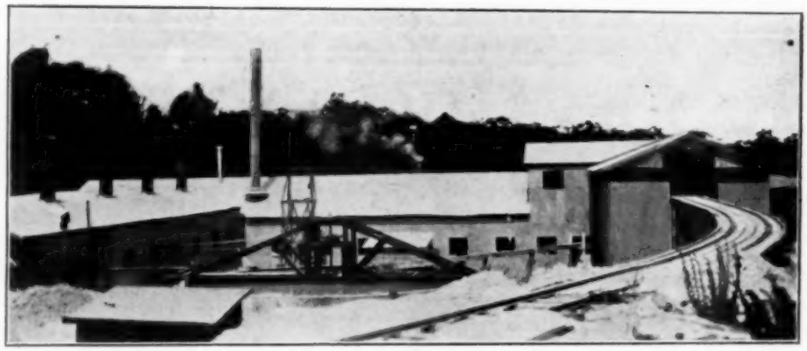
"Rubber has been made synthetically and the types of raw material necessary are well-known. But the serious problem is to find a source of this raw material which is cheap enough to make possible competition of synthetic rubber with the natural.

"Petroleum offers a possibility. When the high-boiling petroleum is cracked in order to obtain low-boiling fractions which can be used as gasoline in internal combustion engines, there are contained in these low fractions butadiene and its derivatives, the type of compounds that have been known to be convertible into synthetic rubber.

"It remains for the chemist to find how the yield of these butadienes may be increased and how they may be economically removed from the other closely related products which accompany them. When this difficult problem is solved, synthetic rubber will not be far off."

Producing Chalk Whiting

The Lime Products Company, 4821 Lake Park Ave., Chicago, with a plant at Whitecliffs, Arkansas, announces that it is now producing genuine amorphous, colloidal chalk calcium carbonate whiting. The deposit at Whitecliffs is said to be the only one in the United States. Whitecliffs Chalk Whiting is used to replace imported chalk whitings. It should not be confused, the company states, with domestic hard, crystalline limestone whitings. Calvin Stitt is sales manager of the Lime Products Company.



The Clay Plant of Thompson, Weinman & Co., Inc., at McIntyre, Ga.

Pigmentar Announced

Pigmentar, a new and special grade of retort pine tar developed especially to meet the exacting specifications of the rubber industry, was recently announced by E. W. Colledge, Jasksonville, Fla., general sales agent for the National Turpentine Products Co., Jacksonville and Gulf Point Fla., the American Turpentine & Tar Co., Ltd., New Orleans, La. and the Dunlevie Pine Products Co., Allenhurst, Ga. This selling organization also maintains offices in New York at 300 Madison Ave. in charge of J. C. Mathews and in the Kimball Bldg., Chicago, in charge of S. S. Skelton. A large trade has already been built up for Pigmentar and the demand is increasing.

STEARIC ACID NOW SOLD BY BINNEY & SMITH CO.

Announcement was recently made by the Binney & Smith Co., New York, that the company has taken up the manufacture and sale of *Stearex*, which includes two grades of stearic acid especially prepared for use in rubber compounding. This acid is being put out under the trade names Stearex A and Stearex B, but can also be furnished in a triple pressed form when required. Full details of the manufacture, properties and use of Stearex are given in the latest booklet, Chat No. 13, just issued by the Binney & Smith Co.

Stearex A is a double pressed acid, containing a minimum of oleic acid, with a melting point of 128 deg. F. and is a higher priced grade than the other. Stearex B is a single pressed acid, melting at 126 deg. F. Both products are designed to fill the demand for higher fatty acids as activators of organic accelerators and as stabilizers of the vulcanization rate, as stearic acid is commercially pure free fatty acid, clean and free from mechanical impurities and possesses physical properties that facilitate ready and complete mixture with the rubber substance.

Stearic acid has four definite functions in rubber compounding, namely, the stabilization of cure of crude rubbers; the activation of a number of accelerators; improvement of the dispersion of reinforcing pigments, together with softening action; and aiding economy, as in many cases it makes possible the use of cheaper rubbers by making zinc oxide soluble and therefore available, while at the same time reducing to a minimum the necessary proportion of this essential, but expensive ingredient.

Each of the important effects of stearic acid is briefly discussed in the booklet, which contains charts comparing effects of Stearex A and B in a tire tread compound, and the effect of adding Stearex B in varying proportions in a given tread formula.

Discuss Safety Measures

The Rubber Section of the National Safety Council held a meeting Dec. 9 in the general offices of the B. F. Goodrich Company, Akron. Representatives of many companies attended the conference, at which the latest safety devices and practices for use in rubber factories were discussed.

Petroleum Institute Meets

The American Petroleum Institute held its annual convention at the Hotel Mayo, Tulsa, Oklahoma, December 6-9. Several committee sessions were devoted to a consideration of specifications for the belting used in the oil fields, including rubber belting. It is understood that the rubber industry was represented at these sessions by a subcommittee chosen by the Mechanical Rubber Goods Manufacturers' Division of the Rubber Association, the member being N. G. Bruce of the Goodyear Tire and Rubber Co., W. W. Evans of the B. F. Goodrich Co., and A. D. Kunze of the Rubber Association.

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The CARTER BELL MFG CO

CARTER BELL STANDARD SINCE 1903 RUBBER SUBSTITUTES

150 Nassau Street New York

Rubber Chemicals Continue Steady

Demand for Certain Chemicals has Already Begun to Show Improvement over Seasonable Slackness of Past Few Weeks

NEW YORK, Dec. 16, 1926—Some of the chemical manufacturers doing a large volume of business in the rubber industry report that demand from that source has already shown some improvement over the seasonable slackness of late November and the first two weeks of December, although it is still spotty and no great increase is expected until the new year. Almost all of the chemical firms are well satisfied with present business conditions, as they realize that heavy orders at this season are abnormal and are content to look back upon the record volume of business done in October while anticipating a renewal of good demand in a few weeks. Withdrawals on contracts continue at a steady pace, and during the last two weeks less requests for deferred shipments were received than had been expected, although a few factories appeared unwilling to take full quotas due to the approaching inventory season. Prices have been reversed as follows:

ACCELERATORS

Organic

A-7	lb.	.70 @	—
A-40	lb.	.70 @	—
A-19	lb.	.75 @	—
A-11	lb.	.75 @	—
Aledhyde ammonia, crystals	lb.	.82 @	—
Aniline oil, drums	lb.	.17 @	.17½
"BB"	lb.	1.05 @	1.07
Captax	lb.	1.20 @	1.50
Crylene	lb.	.70 @	—
paste	lb.	.50 @	—
Di-Ortho-Tolylguanidine	lb.	1.08 @	—
Diphenylguanidine	lb.	.85 @	.88
Ethylidene aniline	lb.	.60 @	.65
Excellerex	lb.	.35 @	.40
Formaldehyde-Aniline	lb.	.40 @	.42
Grasselerator 102	lb.	.80 @	.85
Grasselerator 552	lb.	4.80 @	5.00
Grasselerator 808	lb.	1.25 @	1.50
Heptene	lb.	.55 @	—
Hexamethylene-tetramine	lb.	.80 @	.82½
Monex	lb.	3.25 @	—
Paraphenylenediamine	lb.	1.25 @	1.30
Piperidine-Piperidyldithio-Carbamate	lb.	4.80 @	5.00
R & H 50	lb.	— @	.65
Super-Sulphur No. 1	lb.	.50 @	—
Super-Sulphur No. 2	lb.	.18 @	.25
Tensilac, No. 41	lb.	.65 @	—
Thiocarbanilide, kegs	lb.	.28½ @	—
Trimene	lb.	.75 @	—
base	lb.	1.20 @	1.35
Triphenylguanidine	lb.	.70 @	.73
Tuads	lb.	3.25 @	3.50
Vulcone	lb.	.75 @	.79
Z. 88	lb.	.75 @	1.00
Zimate	lb.	4.00 @	—

Inorganic

Lead, sublimed blue	lb	.10 @	.10½
Lead, white	lb.	.10¼ @	—
Litharge, domestic	lb.	.10¾ @	—
Magnesia, calcined, light	lb.	.06½ @	—
heavy	lb.	.04½ @	—

COLORS

Blacks (See Compounding Materials)

Blues

Prussian	lb.	.33 @	.35
Ultramarine	lb.	.08 @	.35

Browns

Siena, Italian	lb.	.04 @	.08
Umber, Turkey	lb.	.04 @	.06

Greens

Chrome, light	lb.	.27 @	.31
medium	lb.	.29 @	.32
dark	lb.	.31 @	.34
Chromium Oxide, bbl.	lb.	.31 @	.38

Reds

Antimony crimson, 15/17	lb.	.27 @	—
sulphur free	lb.	.48 @	.50
golden 15/17 F.S.	lb.	.16 @	.22
Indian English	lb.	.11 @	.13
Oximony	lb.	.13¼ @	—
Para toner	lb.	.80 @	.90
Red oxide, reduced	lb.	.10 @	.11
pure	lb.	.14 @	.15
Toluidine toner	lb.	1.75 @	1.85
Venetian red	lb.	.01½ @	.05
Vermillion, quicksilver, English	lb.	1.55 @	1.60

Whites

Lithopone, Akcolith	lb.	.05¾ @	.06
Litnopone, Asolith	lb.	.05¾ @	.06½
Zinc Oxide—American Process			
American Azo: ZZZ (lead free)	lb.	.06½ @	.07
ZZ (under 5% leaded	lb.	.06⅝ @	.06⅞
Zinc Oxide—French Process White seal	lb.	.11⅝ @	—
Green seal	lb.	.10⅜ @	—
Red seal	lb.	.09½ @	—

Yellows

Chrome	lb.	.17 @	.18
Ocher, French medium	lb.	.02½ @	.02⅝
domestic	lb.	.01⅝ @	.02

COMPOUNDING MATERIALS

Aluminum Flake (f.o.b. plant)	ton	21.85 @	24.50
hydrate light	lb.	.16 @	.17
Ammonia carbonate	lb.	.13½ @	.14
Are-O-Sol	ton	8.00 @	11.00
Asbestine	ton	16.00 @	18.50
Barium carbonate	ton	50.00 @	52.00
Barium Dust	lb.	.05 @	.06
Barytes southern off-color,	ton	12.00 @	18.00
Western prime white	ton	23.00 @	—
imported	ton	27.00 @	36.00
Basofor	lb.	.04½ @	—
Blacks Arrow "Aerfloted"	lb.	.09 @	.13
Bone Black	lb.	.05½ @	.11
Carbon, compressed	lb.	.08½ @	.12½
" uncompressed	lb.	.08 @	.12
Drop Black	lb.	.07½ @	.14
Lamp "	lb.	.12 @	.40
Micronex	lb.	.09 @	.13
Thermatomic carbon	lb.	.05 @	—
Blanc fixe dry f.o.b. works	lb.	.04 @	—
Carrara filler	lb.	.01¾ @	.02
Catalpo (fact.)	lb.	.02 @	—
Chalk	lb.	.02½ @	.04½
Clay, China, domestic	ton	8.00 @	9.00
Aerfloted Suprex	ton	11.00 @	20.00
Blue Ridge, Dark	ton	9.00 @	—
" " Light	ton	12.00 @	—
Dixie	ton	15.00 @	30.00
Langford	ton	12.00 @	22.00
Mineral Flour, c. l. fob mine	ton	20.00 @	23.00
Glues, extra white	lb.	.19½ @	.29
medium white	lb.	.18 @	.24
common bone	lb.	.13 @	.14
Graphite flake, bbls.	lb.	.06½ @	.10
Magnesia, carbonate	lb.	.08 @	.09
Mica, powdered	ton	65.00 @	80.00
Rotton Sone (powdered)	lb.	.02½ @	.04½
Soapstone, powdered	ton	15.00 @	22.00
Starch, powdered	cwt.	3.30 @	3.70
Talc, domestic	ton	16.00 @	18.00
Terra Alba	cwt.	1.15 @	1.75
Tripoli, white	lb.	.01¾ @	.02
Whiting, commercial	cwt.	.85 @	1.00
English cliffstone	cwt.	1.50 @	—
Quaker	ton	13.00 @	15.00
Superfine	ton	10.00 @	12.00
Sussex	ton	8.00 @	10.00
Wood pulp XXX	ton	35.00 @	—
" " X	ton	25.00 @	—

MINERAL RUBBER

Genasco (factory)	ton	50.00 @	52.00
Granulated M.R.	ton	33.00 @	38.00
Hydrocarbon, Hard	ton	29.00 @	35.00
Hydrocarbon, Soft	ton	29.00 @	—
320/340 M.P. hydrocarbon (c. l. factory)	ton	47.00 @	52.00
300/310 M.P. hydrocarbon (c. l. factory)	ton	42.00 @	47.00
Paradura	ton	70.00 @	72.50
Robertson, MR, solid	ton	35.00 @	75.00
M.R. (gran)	ton	42.00 @	80.00

SOFTENERS

Acids

Nitric, 36 degrees	cwt.	5.00 @	5.25
Sulphuric, 60 degrees	ton	10.50 @	11.50
66 degrees	ton	15.00 @	16.00
Tartaric, crystals	lb.	.29½ @	—

Acids, Fatty

Stearex	lb.	.10 @	.14
Stearic, single pressed	lb.	.10 @	.11
double pressed	lb.	.12 @	.13
triple pressed	lb.	.14 @	.15

Alkalies

Caustic soda, 76%	cwt.	3.20 @	—
Soda ash, 58% C.L.	cwt.	1.43 @	1.45½

Oils

Castor, No. 3 bbls.	lb.	.12 @	—
Corn, crude, bbls.	lb.	.10½ @	.11
refined	lb.	.11¾ @	—
Cottonseed, crude		.06¼ @	—
Cycline	gal.	.26 @	.34
Fluxrite	lb.	.05 @	.06
Glycerine, C.P. drums	lb.	.30 @	.32
Linseed, RawC.L. bbl.	lb.	.10 @	—
Moldrite	lb.	.05 @	.06
Palm Lagos	lb.	.08¼ @	.08⅝
Niger	lb.	.07½ @	.07⅞
Peanut,domestic,crude	lb.	.11 @	—
Petrolatum, white	lb.	.09 @	.09½
amber	lb.	.03¾ @	.04
dark amber	lb.	.03⅜ @	.03½
Pine, steam distilled	lb.	.70 @	.72
Rapeseed, refined	gal.	.77 @	.85
Rosin, first rectified	gal.	.70 @	—
second rectified	gal.	.75 @	—
Synthecite	lb.	.06 @	—
Tar, commercial	gal.	.30 @	.32

Resins and Pitches

Pitch, Burgundy	lb.	.06½ @	.07½
coal tar	gal.	.05½ @	.06
pine	bbl.	9.00 @	10.00
Rosin, grade K	bbl.	14.00 @	—
Pigmentar	gal.	.33 @	.41
Tar Retort	bbl.	16.00 @	16.50
kiln burned	bbl.	15.50 @	16.00

Solvents

Acetone, pure	lb.	.12 @	—
Alcohol denatured, No. 1 bbls.	gal.	.40 @	—
Benzol, 90%	gal.	.24 @	—
pure		.29 @	—
Carbon bisulphide	lb.	.05½ @	.06¼
Turpentine, spirits	gal.	.89½ @	.90
Motor gasoline, steel bbls.	gal.	.21 @	—
Naptha, V. M. & P.	gal.	.16½ @	—
Turpentine, spirits	gal.	.89½ @	.90
wood	gal.	.84 @	.88

Waxes

Beeswax	lb.	.40 @	.41
Carnauba, No. 1	lb.	.75 @	—
Ceresin, white	lb.	.10 @	.11
Montan, crude	lb.	.06 @	.06½
Ozokerite, black	lb.	.24 @	.25
green	lb.	.26 @	.30

ANTI-OXIDANTS

Age-Rite	lb.	.85 @	.90
Antox	lb.	.88 @	—
VGB	lb.	.66 @	—

SUBSTITUTES

Black	lb.	.08½ @	.14
White	lb.	.10 @	.17
Brown	lb.	.10 @	.15

VULCANIZING INGREDIENTS

Ethyl Chloride, Cyl.	lb.	.55 @	—
" " Drums	lb.	.45 @	—
Sulphur Chloride (drums)	lb.	.04 @	.05
Sulphur flour Superfine, bags	cwt.	2.20 @	2.80
" bbls.	cwt.	2.25 @	3.10
100% pure, refined, bags	cwt.	2.60 @	3.15
bbls.	cwt.	2.95 @	3.50

NEW ENGLAND SOUTHERN MILLS

MANUFACTURERS OF TIRE FABRICS

This group of Mills is thoroughly equipped to produce coarse builders, breakers and chafers in all grades of cotton, in yarn numbers ranging from 4's to 30's in order to meet the demand for coarser yarns and lower cost fabrics.

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GUAYULE RUBBER

Washed and dry, ready for compounding. Invaluable in conjunction with Plantation Rubbers and Reclaims as an aid in Compounding. Especially useful in all Friction Stocks.

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RECLAIMED RUBBERS

UNIFORM **RED BLACK GREY** **RELIABLE**

THE DEFIANCE RUBBER COMPANY

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THE
GENERAL
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—goes a long way to make friends

BUILT IN AKRON, OHIO, BY THE GENERAL TIRE & RUBBER CO.

Indefinite Report Halts Rise in Cotton

Although Smaller than Expected, Final Crop Forecast had Bearish Effect because it Hinged on Weather Conditions

NEW YORK, Dec. 15, 1926—Beginning with a hectic day of activity twelve days ago, occasioned by a private estimate of a 19,115,000-bale crop which caused selling on all sides and caused prices to break $1.75 a bale, cotton rallied on trade buying and fewer hedge sales. A rising trend was apparent during the next few days, caused by a good technical position, a falling off in offerings and a good demand for spots.

The rise was halted on the 8th when the Department of Agriculture forecast a crop of 18,618,000 bales, which although less than expected, was a disappointment to many as it was indefinite and hinged on the state of the weather during December and January. Many interpreted the forecast as indicating a crop of over 19,000,000 bales. The curious disparity between the estimate and the ginnings up to Dec. 1, namely 4,000,000 bales, was regarded as an index that the crop was being overestimated. However, the market made a net gain for the week of 20 points.

It was estimated that the mills want cotton, even if speculators do not. The indicated supply of American cotton, including the carryover was reported at 25,600,000 bales, against 20,500,000 bales a year ago, meaning, perhaps, that the carryover on July 31, 1927, will be about 9,150,000 bales, or 3,800,000 bales more than last July and the largest since 1921, when it was 9,194,000 bales. However, many expressed the belief that the world's consumption of American cotton this season may easily reach the unheard of total of 16,500,000 bales.

Two days ago bad weather in some parts of the belt, with prospects for a cold wave in Texas, Arkansas and Louisiana, caused shorts to cover and brought a rise of 15 to 18 points. The undertone continued firm on the report that November consumption was larger than expected, being 583,395 bales, against 568,532 bales in October, and 543,488 bales in November, 1925. November exports were 1,486,224 bales, or 116,400 bales larger than those for October and almost 280,000 bales more than in November, 1925. The mills hold 1,497,844 bales, an increase of about 40,000 bales over a year ago, and warehouses had 6,517,765 bales, a gain in a month of 1,047,750 bales.

Current COTTON and FABRIC *Quotations*

COTTON CLOSING PRICES

	Open	High	Low	Close Dec. 15	Close Dec. 2
December	12.47	12.60	12.39	12.60	12.20
January	12.01	12.27	12.01	12.25	11.99
March	12.30	12.52	12.25	12.51	12.24
May	12.52	12.72	12.48	12.70	12.47
July	12.69	12.90	12.68	12.88	12.65
October	12.90	13.12	12.81	13.10	——

TIRE FABRICS

CORD

Peeler, carded, 23/5/3	lb.	.37 @	.38
Peeler, carded, 23/4/3	lb.	.34 @	.35
Peeler, carded, 15/3/3	lb.	.39 @	.40
Peeler, carded, 13/3/3	lb.	.38 @	.39
Egyptian, carded, 23/5/3	lb.	.44 @	.46
Egyptian, combed, 23/5/3	lb.	.50 @	.52

SQUARE WOVEN

Carded American, 17¼ oz. 23-11 ply	lb.	.36½ @	.37½
Carded American, 17¼ oz. 10-5 ply		.33 @	.34

LENO BREAKER

Carded American, 8 oz.	lb.	.35 @	.37
Carded American, 10 oz.	lb.	.35 @	.37

CHAFERS

Carded American, 8¼ oz.	lb.	.33 @	—
Carded American, 9½ oz.	lb.	.33½ @	—
Carded American, 12 oz.	lb.	.33 @	—
Carded American, 14 oz.	lb.	.32 @	—

SHEETINGS

40-inch	2.50-yard	yd.	.10¾ @	—
40-inch	2.85-yard	yd.	.09¼ @	.09½
40-inch	3.15-yard	yd.	.10½ @	—
40-inch	3.60-yard	yd.	.08¾ @	—
40-inch	3.75-yard	yd.	.07½ @	.07⅝
40-inch	4.25-yard	yd.	.06¾ @	.07

DUCKS

Belting and Hose	lb.	.27½ @	.28
Enameling	lb.	.30 @	.34
Shoe Ducks	lb.	.33 @	.35
Single filling	lb.	.12 @	.14½
Double filling	lb.	.14¾ @	.16

Tire Fabrics

A good deal more inquiry has featured the market for tire fabrics during the past two weeks, occasioned, it was said, by the fact that most of the uncertainty connected with the cotton crop has been removed by the publication of final figures. As a result of these inquiries, which were estimated as totaling several million pounds, what promises to be a highly satisfactory business is shaping up for fabric mills, although little of this business has as yet been placed. Some of the inquiries were for quantities in the neighborhood of 500,000 pounds, mostly for delivery in the first six months of 1927, with a little for delivery in the third quarter. Efforts on the part of the mills to book business met with considerable competition, and as a result the price basis has not been as satisfactory to them as to the rubber factories.

Sheetings

A good demand was reported for lightweight sheetings, but prices offered were extremely low. The average sale was under 25,000 yards. A tendency was manifested by some mills to urge sales for December charging, but the majority of rubber company buyers did not wish to have any volume of goods charged during the month, due to a desire to keep inventories down.

Ducks

Little improvement in the demand for cotton ducks was experienced in the past fortnight. A limited number of sales were effected for small quantities, mostly of a filling-in character. Several rubber factories were interested in hose and belting duck, but prices offered were below the quotations current. Mills complained that in bidding for quantities buyers often lost sight of the quality of goods offered. There was little incentive for mills to shade asking prices, as practically no inquiries were received for quantities that would warrant such a move.

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Enameling Duck Drill Sheeting

Osnaburg and Special Constructions

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Dovan Chemical Corp.

30 Church St. New York

ACCELERATORS — Two new accelerators: Vulcone and Di-ortho-tolylguanidine.

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Dyestuffs Dept. Sales Div.

Wilmington, Del.

ACCELERATORS

Grasselerator 102
Grasselerator 552
Grasselerator 808

Grasselli Chemical Co.

Rubber Service Dept.

347 Madison Ave., New York

ACCELERATORS— Every lot is tested before shipment and a written guarantee of quality furnished.

Roessler & Hasslacher Chem. Co.

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ACCELERATORS—A19, A7, Thiocarbanilid.

The RUBBER SERVICE Laboratories Co.

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Akron Ohio

ANTIMONY Pentasulphide, golden and crimson, very fine, pure.

Rare Metal Products Co.

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Your Products Listed Here

reach buyers in rubber factories at a cost lower than is possible by any other method.

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ASBESTINE— Specially prepared for use in Rubber. Send for liberal working sample.

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BEAD CABLES— National Flat Woven and Pratt Patent Bead Cables.

National Standard Co.

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BOLTON BIAS CUTTER

Cuts cord or flat woven fabrics with equal ease and precision. In use all over the world.

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CALENDERS—Embossing, for artificial leather, oil cloth etc.

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Manufacturers for forty years.

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CARBON BLACK—*Aerfloted* Arrow Black for rubber compounding. Standard for grit-free uniformity.

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130 West 42nd St. New York

CARBON BLACK or any other compounding material used by rubber manufacturers can be marketed at low cost by listing it in *The Market Place.*

CATALPO — The universal and standard rubber pigment now being used in treads, solids, tubes, carcass frictions, etc.

Moore & Munger

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New York City

The Most Economical Form of Advertising

The Market Place Section of THE RUBBER AGE contains the *only* alphabetically arranged listings of small 'ads' available in the rubber industry. Your advertisement in this section will not only be easy to find, but it will produce excellent results at very moderate costs. Let us send you details.

THE MARKET PLACE Section Continued on Second Page Following.

STATISTICAL SECTION

TIRES & TUBES
CRUDE RUBBER

AUTOMOBILES
GASOLINE

THE PRESENT technical or statistical position of crude rubber does not indicate higher prices in the immediate future. During the month of November consumption declined 1,756 tons from the October figure, and was also 13,027 tons under November importations of 41,150 tons. As a result, stocks on hand at the end of the month were 69,385 tons, the largest for any month this year. As may be seen by consulting the table at the bottom of page 311, November consumption of 28,080 tons was the second smallest figure for any month this year, and was only 503 tons larger than the low consumption month of July. Compared with an average price of 19.200 pence for ribbed smoked sheets reported in our last issue, the London average at the time of this writing was 18.795 pence, a decline of 0.505 pence for the period and a decline of 0.709 pence from the official average of 19.504 pence computed in London on Dec. 8 for the current restriction quarter.

Average Spot Closing Prices--Ribbed Smoked Sheets

(New York Market)

Average Price per Pound for Years 1910-1920

Year	Cents	Year	Cents	Years	Cents
1910	206.60	1914	65.33	1918	60.15
1911	141.30	1915	65.85	1919	48.70
1912	121.60	1916	72.50	1920	36.30
1913	82.04	1917	72.23		

Average Monthly Price per Pound since 1921

Months	1921 Cents	1922 Cents	1923 Cents	1924 Cents	1925 Cents	1926 Cents
Jan.	19.18	18.82	32.73	25.86	36.71	79.50
Feb.	17.96	16.12	35.14	25.29	36.01	62.25
Mar.	17.05	14.53	34.21	22.83	41.00	59.00
Apr.	16.73	15.99	32.48	22.51	43.64	51.25
May	15.82	15.25	27.39	19.89	58.47	47.75
June	12.49	15.11	26.88	18.81	77.26	42.50
July	14.01	14.67	26.10	22.16	103.16	41.03
Aug.	14.04	13.93	28.84	26.17	82.99	38.50
Sept.	14.53	14.44	28.95	27.56	88.88	41.00
Oct.	16.02	19.78	26.93	31.13	98.01	42.50
Nov.	18.06	23.88	27.14	34.33	104.80	38.50
Dec.	20.47	27.43	26.60	37.88	98.51	
Average for Year	16.36	17.50	29.45	26.20	72.46	

London Closing Prices of Ribbed Smoked Sheet

(In pence per pound)

Fifth Restriction Year—First Quarter

Day	Nov.	Dec.	Jan.	Day	Nov.	Dec.	Jan.
1	20⅜	18⅝		16	20⅝		
2	19½	17¾		17	20¼		
3	19⅞	18¾		18	19⅞		
4	20	18½		19	19½		
5	20⅜	—		20	19½		
6	20½	18⅛		21	—		
7	—	18¼		22	19⅜		
8	20⅝	18⅝		23	19⅛		
9	20¾	18¼		24	19¼		
10	20¾	18¼		25	19⅛		
11	20¾	18¼		26	19⅛		
12	20⅝	—		27	19		
13	20½	18⅝		28	—		
14	—	18½		29	18⅝		
15	20¼	18¼		30	18½		
				31	—		

(The average price for the period for which daily prices are reported above is approximately 18.795 pence. The British Colonial Secretary has announced that only 70% of the standard production will be exportable from the restricted area during the next quarter if the price during the entire current quarter does not average at least 21 pence.)

Average Price in Previous Quarters

Quarter	1922-23	1923-24	1924-25	1925-26
Nov-Jan	14.285	14.175	17.9983	46.709
Feb-Apr	16.858	12.917	19.356	38.103
May-July	14.242	10.974	38.469	21.001
Aug.-Oct.	14.944	14.632	43.269	20.199

U. S. Imports and Exports of Crude Rubber.

YEARS	Gross Imports: Long Tons	Gross Imports: Total Declared Value	Gross Imports: Average Declared Value per pound Cents	Re-exports: Long Tons	Re-exports: Total Declared Value	Re-exports: Average Declared Value per pound Cents	Net Imports: Long Tons
1900	22,026	$28,577,789	57.92	1,718	$2,839,668	73.77	20,308
1901	24,617	28,120,218	51.00	1,663	2,425,727	65.11	22,954
1902	22,702	25,158,591	49.47	1,457	1,877,698	57.52	21,245
1903	24,886	35,152,642	63.06	1,646	2,598,416	70.47	23,240
1904	27,629	43,784,297	70.75	1,540	2,749,234	79.70	26,089
1905	28,637	48,517,906	75.62	1,616	3,149,989	87.00	27,021
1906	30,316	53,391,137	78.62	1,676	3,153,775	84.02	28,640
1907	30,649	49,813,361	72.56	1,832	3,509,902	85.55	28,817
1908	34,058	44,696,526	58.59	1,655	2,466,428	66.52	32,403
1909	41,950	79,264,817	84.35	2,161	4,233,921	87.46	39,789
1910	40,241	98,007,295	108.73	2,749	8,134,064	132.07	37,494
1911	36,987	74,410,550	89.81	2,523	4,977,174	88.07	34,464
1912	52,705	99,567,071	84.34	2,456	4,692,262	85.31	50,249
1913	51,732	76,820,739	66.29	1,881	3,396,429	80.62	49,851
1914	63,868	70,472,704	49.26	2,618	3,244,346	55.32	61,250
1915	98,876	111,031,144	50.13	2,082	2,357,350	50.54	96,794
1916	120,576	159,745,475	59.15	4,098	5,330,100	58.07	116,478
1917	181,089	233,220,904	57.49	4,000	5,305,289	59.21	117,089
1918	145,518	146,378,318	44.91	2,746	3,133,622	50.95	142,772
1919	239,259	215,820,113	40.27	2,282	2,205,629	43.15	236,977
1920	252,922	242,795,775	42.86	4,160	2,846,895	30.55	248,763
1921	185,394	73,772,677	17.76	5,716	2,414,924	18.86	179,678
1922	301,076	101,843,188	15.10	4,809	1,921,828	17.84	296,267
1923	309,144	185,060,304	26.73	8,772	5,672,819	28.87	300,372
1924	628,056	174,231,331	23.71	10,309	6,057,687	26.23	617,747
1925:							
Jan.	32,898	22,406,756	30.41	1,162	963,593	37.02	31,736
Feb.	24,696	18,532,115	33.50	979	779,406	35.53	23,717
Mar.	33,072	25,146,691	33.94	1,345	1,105,119	36.69	31,727
Apr.	32,506	24,874,562	34.16	1,130	1,009,305	39.86	31,376
May	36,932	30,311,754	36.64	1,203	1,323,445	49.13	35,729
June	31,569	26,855,883	37.98	1,198	1,577,106	58.75	30,371
July	32,455	33,701,723	46.36	1,278	2,132,681	74.52	31,177
Aug.	33,413	29,834,348	53.22	1,131	1,623,258	64.08	32,281
Sept.	26,367	26,686,013	62.11	1,154	1,820,360	70.41	25,213
Oct.	34,651	30,027,338	64.45	1,132	1,989,291	78.48	33,519
Nov.	37,755	56,271,963	66.54	1,605	2,898,930	80.65	36,150
Dec.	40,329	65,055,868	72.02	1,510	2,625,259	77.61	38,819
	396,642	429,705,014	48.36	14,827	19,847,753	59.76	381,815
1926:							
Jan.	42,404	72,528,151	76.36	2,084	3,747,505	80.28	40,320
Feb.	32,865	58,733,370	79.78	1,430	2,280,168	71.17	31,435
Mar.	42,152	70,589,581	74.76	1,836	2,735,234	66.51	40,316
Apr.	34,544	48,742,539	62.99	1,128	1,605,093	63.58	33,416
May	29,756	36,896,080	55.35	1,052	1,558,987	66.17	28,704
June	24,900	34,498,561	61.85	1,105	1,371,217	55.41	23,795
July	35,820	35,061,470	41.20	1,554	1,743,854	50.09	34,266
Aug.	27,400	24,670,752	40 21	1,318	1,339,563	45.38	26,082
Sept.	37,112	32,625,022	39.02	1,437	1,519,870	47.20	35,675
Oct.	29,333	25,300,483	38.50	1,366	1,316,270	43.02	27,967
Nov.							
Dec.							

ALL THE LEADERS

Are represented in this section. Purchasing agents can rely on the concerns listed as thoroughly reliable in every way.

The Market Place

2.

CHEMICALS — Accelerators
Trimene Base, Heptene, Monex, Crylene, Lithox, Aniline Oil.
Clay—Mineral Flour, Seminole (Georgia).
Antioxidant—VGB, a proven product.
Labels—all-rubber two color brands.
Naugatuck Chemical Co.
1790 Broadway, New York.

CRUDE RUBBER — All Grades. Washed - Dried - Milled.
Send us Your Inquiries.
Gibraltar Rubber Corp.
West New York, N. J.

ENGINEERS
Machinists, Iron and Steel Founders
Standard and Special
Rubber Working Machinery
The Adamson Machine Co.
Akron, Ohio

CHEMICALS and compounding ingredients; Clay, Whiting, Accelerators, Mineral Rubber.
R. T. Vanderbilt Co.
50 East 42nd St. New York City

CRUDE RUBBER BROKERS
Henderson Brothers Co., Inc.
60 Beaver St., New York City
Members Rubber Exchange of N. Y.

FABRICS—Spots and Contracts: Tire Fabrics, Enameling ducks, Tube Wrapping Tapes.
H. Frank Jones
395 Broadway New York City

CHEMICALS and Mineral Ingredients—Whiting, Clay, Talc, Barytes, Colors, Heavy Calcined Magnesia, Carbonate of Magnesia, Pumice Stone.
Standard Since 1890
Whittaker, Clark & Daniels, Inc.
245 Front St., New York

CRUDE RUBBER
Importers and Dealers
Members Rubber Exchange of N. Y. and Rubber Exchange Clearing House
Henderson, Helm & Co., Inc.
44 Beaver St., New York
Weekly Market Review on Request

FABRICS—Tire, cords, enameling ducks, drills, sheetings, osnaburgs.
J. H. Lane & Co.
250 West 57th St. New York City

CHEMICALS and COLORS
for all classes of mixing and cure. Complete rubber laboratory service for our customers.
Wishnick-Tumpeer, Inc.
New York Chicago Cleveland Boston

CRUDE RUBBER
We Solicit Your Inquiries
H. Muehlstein & Co., Inc.
41 East 42nd. St., N. Y. City
Offices in Akron, Chicago, Boston.

FABRICS—Tire fabrics—coarse builders, chafers, breakers in all grades.
New England Southern Mills
LAWRENCE & CO.
24 Thomas St. New York
Boston, Philadelphia, Chicago, St. Louis, San Francisco

CHEMISTS read your listing in the MARKET PLACE. There is no cheaper way to reach these prospects.
Try It!

CRUDE RUBBER
Importers
Members Rubber Exchange of N. Y., Inc. and Rubber Exchange Clearing House, Inc.
Charles T. Wilson Co., Inc.
82 Beaver St., New York
AKRON OFFICE: 507 Second Nat'l. B'ldg.

FACTICE—Prevents blooming, makes colors fast and a smoother batch.
Stamford Rubber Supply Co.
Stamford, Conn.

CLAYS for the rubber trade.
CONGAREE—Pure White Pulverized.
COLUMBIA — Pure White — Dried and Crushed.
United Clay Mines Corp.
General Offices — — Trenton, N. J.

DIPHENYLGUANIDINE
Aero Brand, product of the highest purity from dependable source of supply.
American Cyanamid Co.
511 Fifth Ave. New York City.

FLUXITE — Liquid and Solid — A rubber softener and aging compound of great efficiency.
Damascus Mnfg. Corp.
E. 93rd. St. & Cassius Ave.,
CLEVELAND, OHIO

CONSULT BANNER
Before You Buy
TIRE BUILDING MACHINES
The Banner Machine Co.
Columbiana, Ohio
Paul A. Frank, Akron, Ohio, Agent.

DRY KILN—for drying crude rubber and chemicals—Hunter Process.
Carrier Engineering Corporation
750 Frelinghuysen Ave. Newark N. J.

GUAYULE—"Duro" Brand washed and dried ready for compounding.
Continental Rubber Co.
120 Broadway New York

THE MARKET PLACE Section Continued on Second Page Following.

United States Tire and Tube Statistics[1]

Production, Sales, and Inventories[2]

AUTOMOBILE CASINGS

	Production During Month					Sales During Month					Inventory at End of Month				
	1922	1923	1924	1925	1926	1922	1923	1924	1925	1926	1922	1923	1924	1925	1926
Jan.	2,740	4,170	4,294	4,740	4,721	2,194	4,114	3,785	4,013	2,974	5,566	6,261	6,411	7,949	9,947
Feb.	2,779	4,291	4,372	4,908	4,865	2,144	3,568	3,849	3,924	3,436	6,255	6,966	7,020	8,928	11,164
Mar.	3,528	5,154	4,570	5,276	5,456	2,847	4,570	3,988	4,657	4,561	6,911	7,561	7,684	9,510	12,004
Apr.	3,202	4,719	4,410	5,341	5,346	2,853	4,106	4,018	5,498	4,980	7,286	8,118	8,219	9,088	12,461
May	3,629	4,880	4,051	5,467	5,023	3,608	3,798	3,693	5,954	5,211	7,364	9,209	8,442	8,611	12,343
June	3,785	3,943	3,506	5,418	5,422	4,281	3,448	3,671	6,737	5,724	6,723	9,387	8,207	7,243	11,968
July	3,302	2,657	3,403	5,587	4,950	3,678	3,463	4,748	6,298	6,337	6,445	8,628	6,851	6,421	10,592
Aug.	3,874	3,141	4,313	5,607	5,872	4,153	3,803	5,010	4,760	6,944	6,173	8,078	5,969	7,261	9,732
Sept.	3,340	2,706	4,708	5,007	5,706	3,407	3,563	4,539	4,569	6,040	6,149	7,197	6,033	7,681	9,318
Oct.	3,566	3,148	5,169	4,505	5,103	3,334	3,821	4,196	5,580	4,544	6,244	6,502	7,118	6,670	9,917
Nov.	3,644	3,200	4,253	4,229		3,248	3,408	4,480	3,671		6,620	6,252	6,943	6,955	
Dec.	3,543	3,250	4,584	4,760		4,040	3,547	4,143	3,601		6,132	5,772	7,427	8,142	
	40,932	45,259	51,633	60,845		39,987	45,204	50,120	59,262						

AUTOMOBILE INNER TUBES

	Production During Month					Sales During Month					Inventory at End of Month				
	1922	1923	1924	1925	1926	1922	1923	1924	1925	1926	1922	1923	1924	1925	1926
Jan.	3,125	5,269	5,184	6,343	6,809	2,552	5,091	4,723	5,576	3,723	6,996	7,784	8,960	11,570	14,361
Feb.	3,462	5,386	5,424	6,339	6,825	2,310	4,085	4,530	4,971	3,736	8,189	9,029	9,786	13,023	17,090
Mar.	4,023	6,501	5,625	7,000	7,030	2,848	5,214	4,667	5,711	4,987	9,321	10,321	10,877	14,236	19,131
Apr.	3,534	5,679	5,380	6,851	6,554	3,162	4,825	4,782	6,704	5,051	9,640	11,192	11,503	13,618	20,674
May	3,961	5,757	4,992	6,846	6,149	3,995	4,651	4,865	8,040	6,304	9,586	12,390	11,682	12,501	21,141
June	4,174	4,787	4,658	6,942	6,171	5,391	4,882	5,286	9,032	6,898	8,249	11,899	10,888	10,409	20,243
July	4,091	3,500	5,143	7,544	5,729	4,905	5,374	7,190	9,140	8,569	7,568	9,862	8,845	8,635	17,267
Aug.	5,078	4,771	6,688	7,618	7,424	5,733	5,800	7,493	6,923	9,579	6,943	9,267	7,678	9,271	15,462
Sept.	4,669	4,339	7,342	7,254	7,590	4,797	4,966	6,908	6,665	7,762	6,886	8,610	8,052	9,950	15,312
Oct.	5,050	5,140	7,861	6,612	6,208	4,618	4,848	5,700	7,845	5,474	7,317	9,198	9,803	8,726	15,929
Nov.	5,135	4,602	6,136	6,266		4,165	4,604	6,332	5,406		8,280	8,925	10,224	9,491	
Dec.	4,548	4,385	6,273	6,999		5,197	4,732	5,540	4,991		7,643	8,425	11,052	11,313	
	50,850	60,116	70,706	82,614		49,673	59,072	68,016	81,004						

(1) *Statistics of The Rubber Association of America, raised to 100%.* (2) *All figures expressed in thousands.*

Stock of Crude Rubber in United States and London

(All Quantities in Long Tons)

UNITED STATES

At End of	ON HAND			AFLOAT			ON HAND AND AFLOAT		
	1924	1925	1926	1924	1925	1926	1924	1925	1926*
Jan.	——	60,870	55,198	——	36,759	46,296	——	97,629	100,434
Feb.	——	54,109	58,035	——	41,475	46,935	——	95,584	104,970
Mar.	——	52,494	61,822	——	40,577	43,567	——	93,071	105,389
Apr.	——	50,143	55,261	——	53,465	41,905	——	103,608	97,166
May	——	52,064	64,360	——	46,846	40,303	——	98,910	104,663
June	——	50,997	60,460	——	51,202	40,907	——	102,199	101,367
July	——	46,245	64,900	——	46,003	38,062	——	92,248	102,962
Aug.	——	42,354	60,870	——	41,254	37,360	——	83,608	98,230
Sept.	——	36,367	62,078	——	55,151	42,464	——	91,518	105,542
Oct.	55,378	34,085	64,989	46,359	51,098	52,930	101,737	85,183	117,919
Nov.	59,017	34,885	69,385	35,685	42,692	47,311	94,702	86,577	116,696
Dec.	56,080	51,215		46,216	48,208		102,296	99,423	

(Rubber Association of America figures raised to 100%.)

LONDON

(In Wharves and Warehouses—Figures Include Latex)

At End of:	1920	1921	1922	1923	1924	1925	1926
January	19,300	56,573	67,232	73,498	57,460	27,172	9,994
February	18,329	59,439	67,623	70,483	56,732	23,425	10,004
March	18,969	63,913	66,670	63,438	55,647	18,104	13,750
April	20,072	68,759	68,637	58,770	54,559	12,949	18,951
May	20,921	70,403	70,146	54,439	51,615	5,895	20,896
June	22,517	69,408	71,597	51,050	51,115	5,318	23,894
July	25,346	71,065	71,515	49,937	52,073	4,258	27,727
August	30,674	73,211	72,112	48,427	49,700	4,619	30,764
September	35,504	72,175	70,977	54,523	44,011	5,453	35,077
October	41,743	69,229	68,536	58,891	37,523	5,086	42,141
November	45,550	70,786	68,548	60,074	33,593	3,869	
December	50,652	69,792	72,299	60,246	29,488	5,697	

United States Consumption of Gasoline

(Gallons)

MONTHS:	1918	1919	1920	1921	1922	1923	1924	1925	1926
January	144,579,291	169,240,627	236,073,140	294,750,791	282,717,148	456,967,163	500,420,689	595,413,000	720,358,000
February	147,204,377	185,900,192	248,395,214	225,195,372	262,925,732	380,093,070	402,703,876	543,640,000	650,718,000
March	219,333,317	201,004,317	256,020,539	346,164,546	380,406,778	446,460,208	467,181,088	625,053,000	779,571,000
April	265,151,411	243,440,615	297,000,463	333,290,921	385,230,994	485,716,788	607,175,026	798,305,000	831,410,000
May	313,824,603	327,610,273	378,912,692	354,263,486	499,724,405	582,535,781	672,495,321	841,787,000	989,857,000
June	306,677,723	305,960,438	427,747,291	442,924,973	506,959,446	633,504,590	682,409,140	868,350,000	969,051,000
July	353,589,555	296,242,260	434,878,617	457,758,078	566,099,329	674,019,467	789,666,590	963,071,000	1,014,804,000
August	339,435,744	376,484,274	479,741,391	505,035,827	583,687,932	692,154,000	828,057,347	931,901,000	1,103,844,000
September	284,685,213	367,633,742	450,888,670	438,083,634	507,924,207	655,797,616	718,068,623	848,867,000	942,858,000
October	299,642,892	338,429,709	384,802,246	454,995,551	490,393,454	621,172,668	751,499,199	831,774,000	986,496,000
November	245,278,844	284,620,809	366,567,344	350,548,481	471,616,103	538,308,809	698,359,199	757,744,000	
December	209,863,377	238,245,230	289,673,556	313,015,596	434,399,514	518,305,120	657,967,000	759,699,000	
TOTAL	3,129,266,347	3,424,813,486	4,260,696,163	4,516,027,256	5,372,085,042	6,685,035,280	7,770,238,000	9,365,604,000	

The Market Place

3.

HEELS, soles and strips
We can make any special brand with your molds or with ours. Best quality at the lowest price. Consult us.
P. & B. Rubber Mfg. Co., Inc.
Laurel Hills, Long Island, N. Y.

MOLDS AND CORES—
Tire building equipment; general machine work.
The Akron Equipment Co.
Akron, Ohio

RECLAIMED RUBBER
We specialize in fine Grey, Black and Red Reclaimed Rubber.
Send us Your Inquiries
The Defiance Rubber Co.
Defiance, Ohio

LINERS — PROCESSED
For
Various Rubber Stocks
The Cleveland Liner & Mfg. Co.
5508 Maurice Ave., Cleveland, O.

MOLDS & CORES—Tire building machines; tire finishing stands; tubing machines; hydraulic presses.
The Akron Standard Mold Co.
Akron, Ohio

RECLAIMED RUBBER—
Uniformity, reliability, cleanliness.
Pequanoc Rubber Co.
Butler, N. J.

MACHINERY—
Heater Presses, Molds and Cores, Tubing Machines.
The Williams Foundry & Mach. Co.
"In Business Since 1888"
Akron, Ohio

MOLDS AND CORES —
Also Non-Skid Engraving Machines. Licensees for Watch-case Heaters and India Cores & Chucks.
The Franz Foundry & Machine Co.
Akron, Ohio

RECLAIMED RUBBER
of Standardized Quality.
NO. 188 FOR TUBES
Philadelphia Rubber Works Co.
New York Akron Philadelphia

MANDRELS--CIRCULAR
and Economy Calender Shells
Prompt Service—Let us quote you.
The Clyde E. Lowe Co.
2976 E. 81st St., Cleveland, Ohio

MOLDS & CORES—for automobile tires; general machine work.
Kuhlke Machine Co.
Akron, Ohio

RECLAIMED RUBBER—
for all purposes.
Rubber Regenerating Co.
Naugatuck, Conn.

MICA — Water Ground and Water Floated — 160 Mesh —Absolutely Free from Grit. Akron Stocks, also Factory Shipments.
The C. P. Hall Co.
116 Central Savings & Trust Bldg., Akron

"NU-GUM" RUBBER
Produced from No. 1 Floating Tubes. Absolutely pure — no oils —no compound added. *Specific Gravity*, .98.
E. L. Bullock & Sons, Inc.
99 John St. New York City

RECLAIMED RUBBER
A standardized grade for every requirement.
U. S. Rubber Reclaiming Co., Inc.
100 E. 42nd St., New York, N. Y.
"43 Years Serving the Industry Solely as Reclaimers"

MICA—160 mesh—water ground —water floated—free from foreign matter.
Stocks carried at Trenton, N. J.— Cleveland, O.—Chicago, Ill.
The Harshaw Fuller & Goodwin Company
Hanna Building, Cleveland, Ohio

PINE TAR — Retort "Sunny South", "Pentarco", "American". Brands for Tires, Tubes, Mechanicals,—Reclaim. *The Best Softener*
E. W. Colledge
P. O. Box 356 Jacksonville, Fla.
Agents in New York, Chicago, Cleveland.

RECLAIMED RUBBER
The Xylos Rubber Co.
Akron, Ohio
CAPACITY 250,000 POUNDS DAILY

MOLDS
FOR TIRES, MECHANICAL GOODS & DRUGGIST SUNDRIES.
The Akron Rubber Mold & Machine Co.
AKRON, OHIO.

POWER EQUIPMENT
Boilers — Compressors — Pumps
Generators — Tanks — Heaters
Rubber Machinery
F. William Stocker
Hoboken, New Jersey.

RED OXIDE—A special grinding, guaranteed uniform in color and quality.
Joseph A. McNulty
114 Liberty St. New York City

THE MARKET PLACE Section Continued on Second Page Following.

Exports of Crude Rubber from Principal Producing Countries

(Figures in Long Tons)

	British Malaya[1]								Dutch East Indies[5]			French[3]		
	Gross Exports	*Imports*	*Net Exports*	*Ceylon*[2]	*India & Burma*[3]	*Br. North Sarawak*[4]	*Borneo*[4]	*Siam*[4]	*Java & Madura*	*Sumatra E. Coast*	*Other D.E.I.*	*Indo-China*	*Amazon Valley*[6]	*Total*[7]
1923	252,016	70,432	181,584	37,112	6,416	5,433	1,744	1,718	32,938	44,002	57,822	5,606	19,859	394,263
1924	259,760	107,419	152,341	37,351	7,697	6,485	1,892	2,962	42,446	52,499	80,347	6,688	23,164	413,872
1925	316,825	158,022	158,803	45,684	10,082	8,460	2,308	5,378	46,643	62,678	119,271	7,881	25,307	492,495
1925:														
Jan.	19,183	10,132	9,051	3,065	1,090	605	180	404	3,053	5,097	5,858	701	1,712	30,816
Feb.	21,622	10,071	11,551	2,207	1,121	469	148	263	3,490	5,139	8,569	586	2,977	36,540
Mar.	26,836	13,399	13,437	4,201	984	756	209	437	4,583	5,499	10,807	487	2,459	43,859
Apr.	22,414	11,751	10,663	3,250	684	483	164	384	4,121	4,663	8,536	482	1,585	35,015
May	26,667	12,979	13,688	2,600	585	717	189	489	3,624	4,455	12,006	599	2,588	41,540
June	27,894	14,706	13,188	3,502	831	1,046	195	430	4,187	4,667	10,644	833	1,653	41,176
July	24,809	16,192	8,617	4,487	680	955	218	533	4,719	5,244	10,516	411	1,142	37,523
Aug.	27,753	12,025	15,728	3,409	671	548	194	436	3,210	5,186	9,445	484	1,810	41,121
Sept.	29,425	12,913	16,512	4,758	745	766	218	533	3,364	4,913	10,628	764	2,140	45,341
Oct.	28,711	14,986	13,725	5,270	516	639	199	708	3,516	5,511	11,767	683	2,240	44,774
Nov.	31,648	14,904	16,744	3,980	1,044	838	186	411	4,657	6,349	11,958	991	2,620	49,778
Dec.	29,863	13,964	15,899	4,955	1,131	638	208	330	4,119	5,955	8,537	860	2,381	45,013
	316,825	158,022	158,803	45,684	10,082	8,460	2,308	5,378	46,643	62,678	119,271	7,881	25,307	492,495
1926:														
Jan.	30,452	10,237	20,433	4,058	1,273	416	196	288	4,397	6,277	8,081	915	1,284	47,618
Feb.	30,440	8,306	22,134	4,941	725	488	141	253	4,474	5,734	6,801	554	2,759	49,004
Mar.	35,012	14,800	20,212	5,708	1,113	792	232	418	4,865	5,612	11,880	573	2,126	53,531
Apr.	23,727	10,565	13,162	3,484	590	679	251	294	4,522	4,598	6,208	410	2,318	36,516
May	31,231	10,604	20,627	3,600	691	927	157	279	4,742	5,293	8,606	502	1,353	46,777
June	30,624	11,764	18,860	3,906	452	779	160	275	5,440	6,111	9,844	549	1,213	47,589
July	28,824	15,280	13,544	4,800	938	911	242	438	4,929	5,522	12,864	1,521		
Aug.	34,625	13,595	21,030	5,246	521	890	168	316	4,418	3,472	10,349	378		
Sept.	35,913	13,972	21,941	6,027	652	887	213	457	4,326	6,757	10,971	681		
Oct.	39,367	15,203	24,164	6,026		805	271	385	4,193			661		
Nov.	34,302	12,201	22,101									718		
Dec.														

(1) Malayan net exports cannot be taken as Malayan production since much of the imported rubber contains a high percentge of moisture and impurities which are eliminated before it is re-exported; the Malayan figures do not contain rubber exported as latex which on the basis of 3 pounds per gallon amounted to 99 tons in 1923, 957 tons in 1924 and 3,101 tons in 1925. (2) Ceylon Chamber of Commerce statistics until 1926. (3) Official statistics. (4) Figures for Sarawak, British North Borneo and Siam are imports from these territories into Singapore through which port practically their entire production moves. (5) Exports from "Other Dutch East Indies" are chiefly native rubber which contains one-third of moisture and impurities for which no allowance has been made in the statistics; rubber shipped as latex has not been included and amounted to 6,355 tons in 1923, 2,735 tons in 1924 and 6,207 tons in 11 months of 1925. (6) Exports through Para, Manaos and Iquitos. (7) This total includes the net exports from British Malaya and all the figures shown for the other territories.

Net Imports of Crude Rubber into Principal Manufacturing Countries

(Long Tons)

	United States	*United Kingdom*	*France* (abd)	*Germany*	*Canada* (ac)	*Japan* (ac)	*Italy*	*Russia* (ce)	*Australia* (cf)	*Belgium* (d)	*Netherlands*	*Sweden* (abcd)	*Norway* (abc)	*Denmark* (abd)
1919	236,977	42,671	19,951	5,584	8,770	10,688	9,894	75	733	3,995	2,771	2,022	437	673
1920	248,762	56,844	15,868	11,890	11,912	6,015	6,123	62	1,040	3,840	5,510	1,567	241	479
1921	179,678	42,087	16,981	21,920	8,248	22,981	3,906	165	554	1,705	1,022	813	178	251
1922	296,267	11,724	27,644	27,546	9,366	16,449	6,430	2,453	2,649	172	−3,807	1,248	321	87
1923	300,372	12,700	31,067	18,519	13,299	17,181	8,489	4,506	1,631	2,184	792	1,391	448	354
1924	317,747	−11,550	34,488	22,727	14,420	19,612	8,764	824	3,127	2,688	−807	1,781	669	473
1925	381,815	4,061	36,911	33,937	19,825	12,743	11,413	7,088	4,217	2,930	875	1,690	701	440
1925:														
January	31,736	−284	2,147	4,303	1,432	797	552	333	192	331	109	164	64	16
February	23,717	−2,492	3,529	3,690	1,278	658	908	1,000	338	275	88	136	145	37
March	31,727	−3,396	3,924	2,784	2,349	689	1,463	1,083	357	373	56	183	77	71
April	31,376	−2,961	3,069	3,574	1,397	719	817	535	314	97	181	149	47	22
May	35,729	−8,650	3,223	3,834	1,532	863	1,060	1,999	385	228	47	126	47	16
June	30,371	619	2,387	3,239	1,681	2,095	1,506	59	378	329	120	97	43	74
July	31,177	2,204	1,827	2,606	1,613	813	650	16	341	176	28	114	45	24
August	32,281	3,825	1,109	2,942	1,582	786	631	85	297	169	76	119	53	35
September	25,213	5,369	4,633	2,667	1,202	936	939	234	429	283	136	102	54	30
October	33,519	1,203	3,039	2,325	1,799	1,060	914	21	243	255	60	159	38	38
November	36,150	2,466	4,654	1,260	1,712	2,140	1,157	190	512	226	−12	219	55	53
December	38,819	6,158	3,370	713	2,248	1,187	815	1,533	431	178	−14	122	33	35
1926:														
January	40,320	6,439	3,170	703	2,188	892	760	332	358	76	154	123	46	51
February	31,435	3,114	3,513	1,113	1,685	741	1,041	643	432	275	89	171	82	94
March	40,316	8,907	4,790	1,342	2,079	864	1,037	832	469	129	227	213	81	55
Apr.	33,416	8,275	4,834	1,781	1,615	1,868	865	402	431	71	93	204	27	23
May	28,704	6,773	2,937	1,848	1,239	1,010	705	200	386	186	241	110	24	47
June	23,795	5,894	2,327	1,655	1,188	1,465	1,070	983	546	269	214	178	20	74
July	34,267	6,758	2,603	2,202	1,552	1,447	800	176	586	212	480	195	34	27
Aug.	26,081	7,327	2,819	2,110	1,888			655		303	596	199	52	55
Sept.	35,674	8,599	2,900	2,029	1,355			472		283	430	159	43	27
Oct.	27,993	8,082		2,423	1,865			585			2	210		
Nov.														
Dec.														

a—Including gutta percha. b—Including balata. c—Reexports not deducted. d—Believed to include scrap and reclaimed rubber. e—Russian statistics are exports from United Kingdom only to Russia. f—Australian annual statistics including 1924 are exports to Australia from Malaya, Ceylon, Dutch East Indies and United Kingdom; monthly figures and total for 1925 are exports from Malaya, Ceylon, and Java only. −Minus sign, reexports in excess of imports. *All statistics from original official trade returns.*

The Market Place

RUBBER— Crude and scrap, all grades.

H. Muehlstein & Co.

Liggett Bldg. New York
Akron, Chicago, Boston, Hoboken

SANITARY GOODS—

Dress Shields, Baby Pants, Aprons, Elastic Belts, Bloomers, Stepins, Bibs, Guimps and Brassieres.

SPECIAL GOODS CUT TO ORDER

Rand Rubber Co., Inc.

Sumner Ave. & Halsey St., Brooklyn, N. Y.

TIRES

"Goes a long way to make friends"

General Tire & Rubber Co.

Akron, Ohio

IF YOU need a light rubber for padding or shock absorbing, you should use RUBBER FOAM (in sheets).
Waterproof; will never rot; one-fourth the weight of cork. *Write for booklet.*

C/M Company of America

181 N. Dearborn St., Chicago, Ill.
EXCLUSIVE DISTRIBUTORS

STEARIC ACID

STEAREX, the product standardized for rubber compounding.

Binney & Smith Co.

41 East 42nd St., New York City

TUBING, INSULATING and Straining Machinery

"Perfected" equipment for inner tubes, treads, and tire beads. Circular hose looms.

John Royle & Sons

Paterson, New Jersey

RUBBER PRODUCTS

Sanitary Goods, Sheetings, Bathing Caps, Aprons, Rubber Specialties.
Sheet Gum Cut to Pattern
RANDPRINT RUBBER

Rand Rubber Co., Inc.

Sumner Ave. & Halsey St., Brooklyn, N. Y.

STRIP CUTTING MACHINES

For cutting all rubber, composition and plain or impregnated fabrics.

Cameron Machine Co.

61 Poplar St., Brooklyn, N. Y.

USED MACHINERY

Mills, Calenders, Grinders, Washers
New and Old Rubber Scrap
Rubber Cloth Remnants

M. Norton & Co.

Locust St. Medford, Mass.

RUBBER PRODUCTS

Manufacturers of all classes of Rubber Goods.

United States Rubber Co.

1790 Broadway, New York City

SULPHUR- *"Tire"* Brand Superfine; *"Tube"* Brand Velvet; quality Sulphur for the rubber trade.

Stauffer Chemical Co.,
of Texas

Scanlon Bldg. Houston, Texas
San Francisco, Cal. Chauncey, N. Y.

WHITING—Domestic

RUBBER MAKERS STANDARD

Wm. S. Gray & Co.

342 Madison Ave., New York

RUBBER SCRAP

Always Buying and Selling

Rubber Waste, Cured and Uncured, Hard Rubber, Balata, Gutta Percha.

HERMAN WEBER

Newark & Jackson Sts., Hoboken, N. J.

TECHNOLOGIST — Testing, formulæ, costs, experimental work on all classes of rubber products. Litigation.

Fred'k. J. Maywald, F.C.S.

5 William St., Belleville, N. J.

WHITING & PARIS WHITE

manufactured from *Genuine English Chalk* and *Cliffstone*—no adulterations.

Southwark Mfg. Co.

Camden New Jersey

RUBBER SUBSTITUTES

White, brown and black.

Carter Bell Mfg. Co.

150 Nassau St. New York

TESTING MACHINES

U. S. ABRASION TESTER
RUBBER TENSILE TEST MACHINES
Write for Descriptive Literature

Henry L. Scott Co.

P. O. Box 963 Providence, R. I.

WOOD FLOUR (wood pulp)

FINELY POWDERED WHITE PINE WOOD Like Flour—Uniform in Quality
Send for Samples

Becker, Moore & Company, Inc.
MANUFACTURERS

North Tonawanda, New York

SANITARY GOODS — Dress Shields, Reducing Garments, Sheetings, Aprons, Bathing Caps, etc.

I. B. Kleinert Rubber Co.

485 Fifth Ave., N. Y. City

TIRES—For Every Transportation need from the Ford Runabout to the heaviest truck and Multiple passenger coach.

Fisk Rubber Co.

250 West 57th St., N. Y. City

ZINC OXIDES — Including KADOX and "Albalith."

The New Jersey Zinc Sales Company

New York Pittsburgh Chicago
Cleveland San Francisco

Daily Spot Closing Prices of Ribbed Smoked Sheet Rubber—*New York Market, in Cents per Pound*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31 Average
1924 Jan.	—	26¼	26¾	26½	26¾	—	26¾	26½	26¾	26¾	26¾	26½	—	25¾	26¼	26	26¾	25¾	25½	—	25¾	25¼	25¾	24¾	25¾	25½	—	25¾	25¼	25	25¼
Feb.	25¾	25¾	—	25¾	25¾	—	25¾	25¾	25¾	25¾	25¾	—	25½	25¾	25¼	—	25¾	25¾	25	25½	25¾	25¾	25¾	—	25¾	25¾	25¾	25¾	25¼	25	25¾
Mar.	25¾	—	24¾	24	24¼	24½	24¼	24¼	—	23¾	23¾	22¾	22¾	22¾	—	—	21¾	—	22½	22	21¾	21¾	22¾	22¾	22¾	22¾	21¾	21¾	22	—	22
Apr.	22½	22½	22¾	22¾	—	22¾	22¾	22¾	22¾	22¾	22¾	22¾	22¾	22¾	22¾	22¾	—	22¾	22¾	22½	22¾	22¾	22¾	22¾	22¾	22¾	22¾	22¾	22¾	22¾	22¾
May	22¾	21¾	22	—	21¾	21¾	21¾	21	21	21¾	—	20¾	20¾	23¾	20	—	17¾	18	—	18½	18½	18¾	19½	19¾	18¾	18¾	18¾	18¾	—	18¾	19¾
June	18¾	19¼	19¾	19¾	19¾	19½	19½	—	19¾	20¼	19¾	19¾	18¾	18¾	—	18¾	18¾	18¾	18¾	18¾	18½	18¾	18¾	18¾	18¾	18¾	18¾	18¾	18¾	23¾	18¾
July	18¾	19¼	19¾	—	19¾	19½	19½	19¾	20¼	19¾	20¾	21¾	21¾	21¾	21¾	22¾	18¾	21¾	21¾	21¾	21¾	22¾	22¾	22¾	23¾	23¾	23¾	23¾	23¾	23¾	22¾
Aug.	23¾	23¾	—	24	25	25½	27¼	27	27	27¾	27¾	27¾	27¾	27¾	27¾	27¾	27¾	27¾	26¾	26¾	27¼	26¾	26¾	26¾	26¾	26¾	26¾	26¾	26¾	—	26¾
Sept.	26¾	26¾	26¼	26¾	26¾	26¾	26¾	26¾	29½	30	31	31½	31½	31½	30	30¾	31¾	31½	—	31¾	32¼	32¾	32¾	32¾	32¾	32¾	32¾	32¾	32¾	34¾	31¾
Oct.	26¾	29½	29½	29¾	—	29¾	29¾	29¾	34¾	34¾	34¾	34¾	34¾	34	34¾	34¾	34	34	34	34	33¾	34	34	34	34¾	34¾	34¾	35¾	39¾	40¾	33¾
Nov.	34¾	—	34¾	—	34¾	34¾	34¾	34½	—	34¾	34¾	34¾	—	—	34¾	34¾	—	34	—	34	39½	38¾	38¾	38¾	38¾	38¾	38¾	38¾	39¾	40¾	37¾
Dec.	35½	35¾	36	36¾	36¾	37¾	—	38	37¾	37¾	37½	37½	37½	37¾	37½	37½	37¾	38	38¾	38¾	38¾	38½	38¾	38¾	38¾	38¾	38¾	38¾	39¾	39¾	38¾
1925 Jan.	—	39¾	39¾	39¾	39	39	39¾	38¾	38¾	38¾	—	37¾	36½	36¾	35¾	35¾	35¾	—	34¾	34¾	35	35½	36¼	36½	35¾	35¾	35½	35¾	35	35¾	36¾
Feb.	—	35¾	34¾	38¾	34½	34½	35¾	—	35¾	34¾	35¼	—	35¾	35¾	—	36¾	36¾	35¾	36¾	36¾	—	—	37½	37½	37¾	38¾	37¾	38¾	—	44¼	41
Mar.	—	38¾	38¾	41¾	38¾	39¾	39¾	39¾	—	40¾	40¾	40¾	40¾	40¾	—	40¾	41¾	41¾	41¾	41¾	42½	42½	43½	43¾	43¾	43¾	43¾	43¾	44¼	44¾	43¾
Apr.	41¼	41¾	41¾	41¾	41¾	42¼	42¼	43¾	43¾	—	—	39	39	44¾	44¾	44¾	44	44	44	44	44½	43¾	43¾	44¾	44¾	45¾	45¾	45¾	44¾	—	45¾
May	45	45¾	45¾	47¼	46¾	46¾	46¾	52½	55¾	59	—	57	59¼	60¾	60¾	64¼	60¾	63	69¼	61¾	61¾	60¾	61¾	63	63¾	62¾	63¾	69½	—	69½	58¾
June	69½	72	74¾	76½	75¾	75¾	73¾	74¾	73¾	75¾	75¾	76¾	74¾	74¾	74¾	71¾	71¾	72¾	73¾	75½	76¼	79¼	82½	82½	82½	87	89¾	85¾	82¾	85¾	77¾
July	81¾	81¾	85¾	85¾	88¾	90½	90½	95¾	94¾	99¾	99¾	101¾	101¾	105¾	110¾	110¾	117	116¾	118½	121	117¾	119	117¾	112¾	112¾	107¾	96¾	93¾	93¾	103¾
Aug.	94½	—	95½	88¾	85¾	86¾	81¾	79	83	71¾	72¾	76½	81½	80¾	77¾	93½	—	78¼	80½	83½	82½	82½	82½	82	82½	85¼	85¾	87¼	90	83
Sept.	88¾	87¾	85	81¾	81¼	—	97½	78¾	80½	99¼	101	86½	92	92	93½	93¾	92¾	92	94¼	92	93	93¾	93½	90	89	89	89¾	91¼	91½	88¾
Oct.	91¾	91¾	92	—	94½	97	—	99	99¼	101	—	97½	97¾	95½	97	—	99	99	99	101¾	102	102	99¼	99¼	99¼	98	99¼	101½	100¼	100¼	98
Nov.	—	99¾	—	98¾	98½	100	100¼	—	98¾	99½	100¼	101¾	104½	105½	—	109	107	107	109¾	110¾	110½	110½	110½	109	106¼	—	108½	107	107	91¼	104¾
Dec.	106¾	108½	107¾	107¾	108¼	—	108	109	109¾	106	105¾	105½	—	101	99¼	90¼	93	93	88¼	86¾	—	88¼	90¼	88¾	88¾	—	91	93	91¼	98½
1926 Jan.	—	—	—	87	87¼	85½	86½	87¾	87¾	—	88¾	88¾	88¾	85¼	84½	82½	—	75½	75½	75¾	75	72	72½	68	66¼	67	69¾	70½	69	—	79½
Feb.	67	67¼	66¼	66¾	68	69	—	69	67	65	66	66	65¾	—	63	60½	60½	59	60	—	61	56	60	55	51¼	51	—	—	—	—	62¾
Mar.	55	58	53	53½	53¾	57¼	56	56	55½	61	60	63	63	61¾	62	62	60½	61	62	61¾	61½	61	61	60	59¼	60	59½	58½	58	59
Apr.	59	—	59	59	59	58	56¼	56¾	53	53	—	51¾	50¾	48¾	47¾	47½	47	47	48¼	48	48	49	48	48	48	48	48	48½	48	51¼
May	48¼	—	—	50¾	49¾	49¾	49¾	49½	—	49¼	49¼	49	48¾	47¾	47¾	47½	47	47	47	47	47½	47¾	46	46¾	45¾	45	45	45	44¾	47¾
June	41¼	42	41¼	42	41¾	41¾	41¾	42	43	42	43	43	43	42	43½	43	43	43	43	43	43	44	43¾	43	43	43	42	42	42	39	42½
July	42	42	42	42	41¾	41¾	41¾	41¾	41¾	41¾	41¾	41¾	41¾	41¾	40	40	40	40	40	40	41¾	41	41½	41	41	41	42	41	41	39¾	41¼
Aug.	—	38¾	38½	40¾	37	38¾	39	40¼	40	40¼	40¼	40½	40½	40¼	38½	40¼	40¼	38	38	39	41¼	39½	39	39	39	39	39	42¼	42½	39½	40
Sept.	40¼	40¾	40¾	—	—	42¾	42½	42	40	40¼	40¼	40½	40½	40¼	40¼	40¼	40¼	40½	40½	40¼	41	41½	42¼	42	42¼	42¼	42½	42¼	42½	42½	41
Oct.	43	43	—	43¾	42¾	42¾	42½	42	42	42¾	42¾	42½	42½	42¾	42¾	43	43	43	42¾	42¾	42¾	42½	42½	42½	42½	42½	42½	42½	42½	—	42½
Nov.	41¼	—	41	41¼	41¼	41½	41½	—	41½	41¾	41¾	41½	41½	41¼	41¼	40¾	40¾	40¾	43¾	42¾	42¾	42½	42½	42½	—	42½	42½	42½	42½	—	38½
Dec.	36¾	37½	37½	37½	37½	—	37	37½	37½	37	37	37½	—	37½	37½	39½	38¾	40¾	39	38	38	38	38	38	38	38	37¾	—	—	—	—

Automobile Production

	Passenger Cars			Trucks		
	Total	United States	Canada	Total	United States	Canada
1920	1,883,158	1,799,522	83,636	322,039	311,531	10,508
1921	1,514,000	1,452,902	61,098	147,550	142,402	5,148
1922	2,397,827	2,302,923	94,904	251,434	244,285	7,149
1923	3,719,164	3,589,936	129,228	378,288	361,078	17,210
1924						
January	293,824	283,983	9,841	30,785	29,038	1,747
February	343,460	331,388	12,072	32,974	31,295	1,679
March	357,045	341,851	15,194	36,505	34,466	2,040
April	346,405	331,957	14,448	38,037	36,104	1,933
May	286,324	271,033	15,291	35,408	33,655	1,753
June	225,079	214,322	10,757	29,135	28,185	950
July	244,544	235,925	8,619	26,448	25,341	1,107
August	255,232	249,796	5,436	28,714	27,834	880
September	263,528	256,940	6,588	32,015	30,663	1,351
October	260,881	254,524	6,357	32,533	31,263	1,270
November	204,343	198,381	5,962	27,956	26,875	1,081
December	182,099	174,899	7,200	27,596	25,906	1,690
Total	3,262,764	3,144,999	117,765	378,106	360,625	17,481
1925						
January	212,921	204,620	8,301	28,198	26,633	1,565
February	252,803	242,024	10,779	34,467	32,774	1,693
March	332,154	319,140	13,014	45,168	43,079	2,089
April	391,302	375,787	15,515	47,898	46,322	1,576
May	382,714	364,363	18,351	43,380	41,492	1,888
June	364,806	350,557	14,249	38,141	36,347	1,794
July	358,554	347,414	11,140	41,915	40,070	1,845
August	221,831	214,401	7,430	37,843	36,357	1,486
September	272,425	262,053	10,372	60,452	57,972	2,480
October	406,572	392,651	13,921	46,003	44,309	1,694
November	336,358	327,617	8,741	40,077	37,840	2,237
December	285,199	277,701	7,498	34,477	32,746	1,731
Total	3,817,639	3,678,328	139,311	498,019	475,941	22,078
1926*						
January	284,703	272,922	11,781	33,461	29,763	3,698
February	334,524	319,763	14,761	41,685	37,608	4,077
March	399,105	381,116	17,989	49,233	44,848	4,385
April	401,836	383,907	17,929	53,887	50,314	3,573
May	394,569	373,140	21,429	51,343	47,838	3,505
June	358,360	339,542	18,818	47,043	44,110	2,933
July	328,816	315,863	12,953	41,847	39,592	2,255
August	393,040	380,258	12,782	47,907	45,404	2,503
September	363,537	350,913	12,624	51,299	46,428	4,871
October	299,443	288,848	10,595	49,965	42,890	7,075
November						
December						

*Revised Figures

U. S. Consumption of Crude Rubber

(Rubber Association of America statistics raised to 100 per cent—All figures in long tons)

	1921	1922	1923	1924	1925	1926
January	5,045	16,938	30,106	29,058	29,638	32,196
February	5,955	14,767	30,149	25,736	29,761	31,136
March	9,190	21,408	36,629	28,385	33,498	32,936
April	13,084	19,294	29,085	27,129	34,139	32,696
May	16,023	23,246	36,155	25,845	35,322	29,364
June	16,142	31,713	24,272	22,753	35,822	28,598
July	18,310	24,522	17,685	23,396	36,053	27,577
August	23,649	29,361	20,359	28,962	35,909	34,444
September	16,705	24,410	17,594	31,497	31,691	32,904
October	16,814	26,881	21,321	31,520	29,047	29,836
November	14,105	24,950	20,437	27,289	28,853	28,080
December	15,482	25,070	21,902	27,199	28,748	
TOTALS	170,504	282,560	305,694	328,769	388,481	

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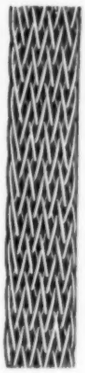

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REVIEW DESK

THE STORY OF THE AIRSHIP. Some of the Essential Facts about the Airship—Its History, Development and Potentialities. 16 pp. 8¼" x 10¼". Goodyear Tire & Rubber Co., Akron, Ohio.

This attractive and very interesting booklet contains an introduction by P. W. Litchfield, president both of the Goodyear Company and the Goodyear-Zeppelin Corporation, in which he points out that civilization must find a use for whatever craft can carry men and goods faster than existing agencies.

A section devoted to the history of early flights is illustrated with drawings and photographs of historical balloons and airships, and tells how Count Ferdinand Zeppelin conceived the idea of the rigid airship while he was a soldier in the Union Army during the Civil War, although it was not until 1900 that he completed and flew his first craft.

The writer of this booklet explains the difference between aero-dynamic and aero-static aircraft and contends that each type has its advantages, but there is no rivalry between the two. The airplane and the airship supplement each other.

Non-rigid airships, semi-rigid types and the rigid ship are each treated in separate sections; all of which are amply illustrated. So well written and impartial is the booklet that one begins to wonder what possible benefit sufficient to pay for its preparation could possibly accrue to the Goodyear Company. In fact, the name of the company is not specifically mentioned in the text until page 10 is reached, and there briefly is described the work of the Goodyear-Zeppelin Corporation.

In discussing the safety factor it is emphasized by the author that commercial airships have flown some 175,000 miles, totaling about 5,000 air hours, and carried 40,000 passengers without accident.

The booklet closes after telling of the training ship, which has been developed by Goodyear-Zeppelin engineers, with a short section describing aeronautical achievements. Here brief mention is made of the ocean flight of the *Los Angeles*, the cross-country flight of Lieut. Maughan, the polar flight of the *Norge*, the accomplishments of the Scout All-Metal plane and others.

• • •

MARKET RESEARCH AGENCIES. A Guide to Publications and Activities Relating to Domestic Marketing. United States Department of Commerce. Government Printing Office, Washington. 15 Cents.

The subtitle of this booklet, "An Inventory of Accomplishments in the Field of Market Research", aptly describes its functions. In it are included the names and addresses of 297 agencies engaged in market study, which are classified under 11 headings, as follows: Federal Government Bureaus, State Government Bureaus, Advertising Agencies, Chambers of Commerce, Co-operative Marketing Associations, Foundations, Universities, Magazines, Newspapers, Trade Associations and Individual Businesses. The booklet is completely indexed to facilitate use.

• • •

"THE MOVING FINGER WRITES ——" Labor Turnover Series —1. 11 pp. 5¼" x 7½". Policyholders Service Bureau. Metropolitan Life Insurance Company, New York.

"Every unnecessary change of personnel is a loss to an industry that is not always apparent, but is nevertheless reflected in the balance sheet." The experience of several hundred companies in dealing with the labor turnover problem condensed in the booklet adds force to this statement, which no well-informed executive would deny as a truism. Pointing out that good will in industry depends upon good supervision, which in turn implies satisfactory labor policies, the conclusion is reached that only by some systematic plan is good supervision possible. A suitable record form for analyzing labor turnover is described and actual illustrations of its use are given.

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BOOKS Every Rubber Man Should Read

Below are listed a number of books which should be included in the library of every rubber manufacturer and individual desirous of keeping posted on all phases of rubber planting, manufacture and chemistry. These books and *any others published* on factory management, efficiency, production, costs, sales, advertising, engineering, electricity, physics, mathematics or any similar subjects, may be obtained at regular publisher's prices through this department. If you want to know what books are published on any subject, write us; or if you need help of any kind on books, this department will gladly assist you.

BEDFORD, C.W., and WINKELMANN, H.A. Systematic Survey of Rubber Chemistry. 385 p. $7.00

Contents: Introduction by Dr. W. C. Geer; Organic Accelerators of vulcanization by Dr. L. B. Sebrell; Theories of vulcanization by Dr. W. J. Kelley; Author index; Subject index; Patent index.

DE VRIES, O. Estate Rubber, Its preparation, properties and testing. Translated from the Dutch. 649 p. $10.00

Contents: Composition and physical properties of latex; Collection of the latex; Coagulation; Methods of Coagulation; The coagulum; The serum; Preparation of crepe-rubber; Comparison between smoked sheet and crepe; Lower grades; The Brazilian method of preparation; Methods of testing; Physical properties and testing of unvulcanized rubber; Chemical composition of rubber; index.

DUBOSC, A., and LUTTRINGER, A. Rubber: its production chemistry and synthesis in the light of recent research. A practical handbook for the use of rubber cultivators, chemists, economists and others. English edition by Edward W. Lewis. 383 p. $8.50

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LUFF, B.D.W. The Chemistry of Rubber. 232 p. $7.50

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MORRELL, R.S., and DE WAELE, A. Rubber, Resins, Paints and Varnishes. 248 p. $4.00

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PEARSON, HENRY C. Crude Rubber and Compounding Ingredients. A textbook of rubber manufacture. Third edition. 422 p. $10.00

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